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In Plain English

July 2009
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8 PC Emergencies

error!

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- An Application Won't Start
- Your Printer Freezes
- You Can't Open A Document
- Your Monitor Is Blank

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Volume 20 . July 2009 . Issue 7

THE ART OF TROUBLESHOOTING

8 PC EMERGENCIES

YOU'VE GOT TROUBLE; WE'LL HELP YOU SHOOT IT

News & Notes

Reviews

Speakal iBoo

Lite-On External Slim eSAU208 8X

Cc:Betty

Editor's Note

I'm not expecting any problems with my computer today. After all, I'm not facing any deadlines, and all of my important files are backed up. Were my computer to flash error messages, crash, or even spontaneously shut down, I'd be inconvenienced but not panicked. I'd have plenty of time to troubleshoot it.

No, my computer is going to wait until I'm really busy and can't afford to spend time solving PC problems. Because then, it won't be just an inconvenience. It'll be a computer emergency.

When faced with this sort of situation, it's tempting to get rid of the problem computer and start fresh with a new one.

I once nearly bought a new computer because my PC was repeatedly rebooting and preventing me from completing a video project for an upcoming family gathering. My wife suggested that I troubleshoot it some more and try to solve the problem. "You usually do," she said.

Sure enough, with a little more poking around, I found that a memory stick had come loose. I reseated it in the memory slot, my computer returned to normal, and the only problem still facing me was my mediocre video-editing skills. My wife was right. She ~~usually~~ always is.

The truth is, most problems *can* be solved. And you can solve many of them pretty quickly, if you have a little guidance. Good instructions focus your troubleshooting efforts so that you can find and fix the source of the symptoms before your deadline. This issue of *Smart Computing* provides that help for eight problems that would otherwise stop you in your tracks.

By the way, the lesson I learned with the memory is this: Don't eyeball those memory sticks. Physically reseat them. I glanced at the memory at the beginning of my troubleshooting, but I thought it looked fine. So, make that *nine* PC emergencies we help you solve.

Joshua B. Gulick

Joshua Gulick

Corrections/Clarifications

In "Data Recovery Software" (page 38 of the April issue), we incorrectly said that iolo Search & Recover 5 does not let users recover multiple files at once. It does support simultaneous recovery of multiple files.

DESKTOPS & LAPTOPS

Entertainment Takes Center Stage On HP's New Pavilion Elite PC

Entertainment and PCs continue to meld, as more consumers are quickly learning the benefits of hooking these powerful machines to monitors and televisions of almost every size. HP (www.hp.com) continues this new-age tradition with its Pavilion Elite m9600t, a PC that's strictly geared toward entertainment and multimedia enthusiasts.

The m9600t series features preinstalled software that lets users compress large videos and stream them to portable players, including cell phones or PDAs (personal digital assistants). The software can also be used to back up files to an online server. Although the base configuration of the m9600t is somewhat modest in the multimedia department, it offers several hardware options that can turn the PC into a full-fledged member of any home theater.

For example, an optional tuner and personal video recorder is available, and the tuner includes Clear QAM, which lets users view HD (high-definition), nonpremium cable programs. Also optional is a Blu-ray DVD writer/player and a USB wireless LAN (local-area network) card for connecting a wireless printer and other accessories.

HP's MediaSmart software helps to pull the various multimedia abilities of the m9600t into one cohesive environment. Users can employ the software to easily edit photos and videos and then share them

Geared exclusively for multimedia and entertainment enthusiasts, HP's new Pavilion Elite m9600t series includes a wealth of home-theater-friendly options, such as a Blu-ray drive, personal video recorder, and a tuner.

using Internet services such as YouTube and Snapfish. Further, MediaSmart provides the capability to create, edit, search for, and listen to music playlists, view DVDs and Blu-ray movies in HD, watch TV via a tuner or on demand, and listen to radio via the Pandora Internet Radio service.

The base configuration of the Pavilion Elite m9600t is $949.99 and includes Windows Vista Home Premium; an Intel Core i7-920 processor (2.66GHz); 3GB of DDR3 SDRAM (double-data-rate 3 synchronous dynamic RAM); a 500GB, 7,200rpm SATA (Serial Advanced

Technology Attachment) hard drive; 512MB ATI Radeon HD 4350 graphics card; LightScribe 16X DVD±SuperMulti drive; 15-in-1 memory card reader; integrated Intel 7.1-channel HD audio; and an HP multimedia keyboard and mouse.

HP's recommended version of the m9600t costs $1,518.99 and includes upgrades such as 6GB of DDR3 SDRAM, a 750GB hard drive, a 768MB Nvidia GeForce 9600GS graphics card, Blu-ray player, wireless LAN card, HP wireless keyboard and wireless mouse, and Microsoft Office Home And Student Edition 2007. ∎

STORAGE

SSDs Ride The Price-Capacity Roller Coaster

Solid-state drives are widely praised for their speed, silence, and reliability, but they're often knocked for their high prices and lack of capacity. Manufacturers are well aware of these consumer concerns and evidently have been working diligently to provide SSDs that are more in tune with customer demands.

Intel (www.intel.com) has announced price cuts on its X25-M 2.5-inch laptop SSD. Although the cuts still fail to place SSDs anywhere near the cost-effective range of hard drives, they are, perhaps, enough to spur more consumers to give the technology a shot when it's time to upgrade. The company dropped the price of its 80GB X25-M model by $50, which means you'll find it at a street price of about $325, while the 160GB model has been cut by $100, leaving street prices hovering around $630.

Going up instead of down are SSD capacities, but you'll pay handsomely if you want significantly more gigabytes. Super Talent (www.supertalent.com) has unveiled the world's first commercially available 512GB 2.5-inch SSD. This version of the MasterDrive RX uses MLC (multilevel cell) NAND flash memory and is rated at a maximum sequential read speed of 230MBps (megabytes per second) and a write speed of 160MBps. However, the cost of the Super Talent's 512GB SSD will set you back around $1,500. ▮

Super Talent has released the first commercially available 512GB SSD (solid-state drive) for laptops, but don't be surprised if you discover that the drive costs more than your entire laptop.

DISPLAYS

Monitor Detects Your Presence

In the ongoing quest to help consumers conserve power without requiring the least bit of hassle on their part, manufacturers are continually looking for unique energy-related innovations. The latest is a technology appearing in LCD monitors from Eizo (www.eizo.com) that detects when users walk away from their desks.

Eizo's EcoView sense technology, found in the FlexScan EV2303W and other Eizo monitors, integrates a motion sensor that constantly keeps watch over activity—or the lack thereof—in front of the monitor. When the sensor detects that the user has been away for more than 40 seconds, it automatically switches the monitor to a power-saving mode and then returns the monitor to full power when the user returns.

This motion technology has some intelligence to it, as it can tell the difference between a still object, such as an empty chair, and movement caused by general office activity. The monitor includes other power-saving features, as well. Similar to technologies seen in certain mobile devices, a light sensor measures ambient light and automatically optimizes the screen's brightness so that the screen shows the same brightness as a sheet of paper under typical office lighting conditions. ▮

New Eizo monitors, such as the FlexScan EV2303W, include a motion-detecting sensor that can determine when you walk away from your desk. When that happens, it places the monitor in energy-saving mode.

Lexmark Technology Eases MFP Use For The Disabled

MFPs (multifunction printers) squeeze plenty of technology into a single box, but that often leads to a complex interface that's difficult to navigate. Users with disabilities can find this particularly challenging, but Lexmark has devised a solution that can help those users get the most out of their MFPs.

The new Lexmark Accessibility Solution (www.lexmark.com) is a Web-based program that lets disabled users, such as those with vision impairments, use their PCs to set up and complete copy, fax, email, FTP (File Transfer Protocol), and scan jobs—all without having to struggle with the MFP's interface. To utilize the technology, a user configures a job on his PC and sends that job to the MFP. Because the Accessibility Solution assigns that job a number, the user simply needs to enter that number on the MFP to complete the job.

This program isn't limited to just a few basic MFP functions. On the contrary, users will have access to almost all settings available on Lexmark MFPs, according to the company. This includes more than 120 settings and options, the ability to change accessibility application display options such as font size and foreground/background colors, and the ability to check the working status of the MFP from the PC. ▮

Atom Forges Into Low-Power Territory

As CPUs continue to push the boundaries of computing performance to new, perpetually impressive realms, chip manufacturers are increasingly able to focus on methods for saving power, particularly in netbooks and other small devices.

A successful example of this shift is Intel's Atom processor, which doesn't give desktop or traditional laptop CPUs much competition in the performance department but reaps plenty of praise for its ability to provide sufficient computing performance at strikingly low power consumption rates.

Now available in the market for more than a year, the Atom is continuing as the flagship for low-power CPUs, and Intel recently announced two new Atom processors for mobile Internet devices. The Z550 marks the first Atom to feature a 2GHz clock rate, and it still uses less than 3W (watts) of power. Meanwhile, the Z515 uses Intel's new Burst Performance Technology to clock in at 1.2GHz when extra performance is needed. (It'll run at slower speeds at other times.)

This Burst Performance Technology is a mobile-minded variation of Intel's Turbo Boost, a desktop technology that increases processor frequency when the operating system demands higher performance. ▮

Smaller than a penny, Intel's Atom has set the standard for low-power mobile CPUs, and a recent chip in the family boosts speeds to 2GHz while keeping power consumption below the 3-watt level.

Infected Hardware We'd Actually Buy

In the future, you might knowingly purchase a PC that's infected with a virus. In fact, it won't be a virus built from ones and zeros but instead an actual, living virus. MIT researchers are making this wild proposition a reality with recent research that uses genetically engineered viruses to build batteries.

Known as a bacteriophage, this type of virus causes no harm to humans, but it does infect bacteria. In turn, the researchers discovered these viruses can be used to create special Li-Ion (lithium-ion) batteries through a process that's cheap and environmentally safe.

According to the researchers, a traditional Li-Ion battery uses lithium ions that flow between a negatively charged anode (such as graphite) and a positively charged cathode (such as cobalt oxide or lithium iron phosphate). Previous MIT research found that engineered viruses could be used to build anodes, and now, the researchers engineered the viruses so that they coat themselves with iron phosphate and then "grab hold" of carbon nanotubes. The result is a package that ultimately transfers energy in a highly efficient manner.

More work is planned for the batteries, but MIT President Susan Hockfield has already shown a prototype virus battery at a press briefing at the White House. ▮
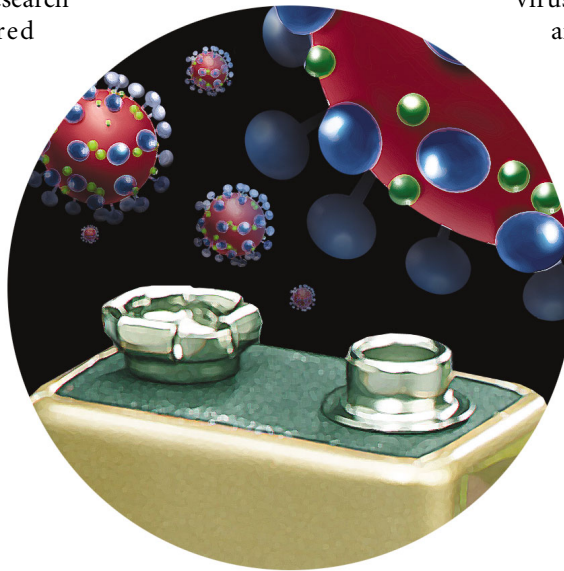
My hard drive claims it is full when I try to copy large files to it, but it isn't full.

Hard drives formatted in FAT32 (32-bit file allocation table) do not allow files larger than 4GB to be copied to them. You'll need to compress or split the files to transfer them to the drive. If this drive is a secondary or external drive, consider reformatting it to NTFS (NT file system), which can handle larger file sizes (but be sure to back up all of the drive's contents before reformatting).

Windows Vista doesn't recognize my graphics card.

Check that any onboard graphics (that is, your motherboard's integrated graphics) are disabled in the BIOS (Basic Input/Output System). You can typically enter the BIOS by restarting your computer and immediately pressing the DELETE key. If the computer starts Windows instead of the BIOS, check your users manual for the appropriate key. If you're still having problems, make sure your motherboard has its latest chipset drivers installed. If you're not sure what drivers you're using, download and install CPU-Z (www.cpuid.com) to find out.

Whenever I type something, my PC shuts down.

Although this problem can sometimes be attributed to a poor USB or PS/2 connection, the more likely culprit is a stuck key. With the PC turned off, check all of the keyboard's keys to ensure that no keys are stuck. If you discover a stuck key, pop off the key's cover and see if any debris is causing the sticking. If so, remove the debris.

Upon starting my PC, I receive an error that my CPU fan has failed.

Even if you open your PC's case and find that the CPU fan is running just fine, the motherboard might report problems if there's an issue with the connection between the fan and the motherboard. Turn off your PC and make sure the CPU fan is connected to the proper fan input on your motherboard (check the motherboard manual if you're unsure). Also, be aware that not all fans support motherboard sensing. ▮

iPhone OS 3.0 Promises Plenty For Nothing

Slated for release this summer, Apple's new iPhone OS 3.0 will deliver a virtual cornucopia of new features at no charge for existing iPhone customers. Historically, major updates to smartphone operating systems haven't generated boatloads of hype, but Apple has bundled so many improvements and features into this update that it's tough not to be at least a little excited.

One of the most visibly pleasing new features is Spotlight, a search function that gives users a single spot to search content residing on the phone, such as contacts, notes, media content, calendars, and other data. Spotlight functions as its own home screen, complete with a keyboard that lets users search for anything at any time.

Search functions will also enjoy a boost elsewhere. Whereas iPhone 2.0 added the ability to search within contacts, the new OS provides the ability to search in all of the iPhone's key applications. For example, in Mail, users can search From, To, Subject, and even headers, and if the message isn't found on the iPhone, it can move the search to the server.

A new application called Voice Memos allows recording of voice notes, interviews, or other audio using the iPhone's built-in microphone or an externally connected microphone, and the audio clips can even be edited using included tools. Although third-party

The newest version of Apple's iPhone operating system shoehorns in an astounding number of new functions, including Voice Memo, cut-and-paste features, MMS (Multimedia Messaging Service) support, and improved search ability.

Image courtesy of Apple

applications are available for voice recording, users have requested an Apple-branded version that will integrate more seamlessly with other elements on the phone.

Also new is MMS (Multimedia Messaging Service) support, which will let the iPhone 3G (the feature isn't supported in 2G phones) send and receive photos, contacts, audio files, and location information through the use of the Messages application. Further, users will now be able to forward and delete multiple messages.

iPhone owners will likely cheer over the addition of a new cut and paste function. With a double-tap, users can select text to reveal a Cut/Copy/Paste pop-up, which allows selection of the desired text, which in turn can be cut or copied. Pasting is enabled with another double-tap to again reveal the pop-up. In addition to copying and pasting text, users will also be able to copy and paste HTML (Hypertext Markup Language) and pictures and even copy and paste between different applications.

Other upgrades include shuffling music with a shake (which already exists on newer iPod nanos), stereo Bluetooth support, expanded support for YouTube accounts, antiphishing protection, extended parental controls, landscape views for mail and text notes, and others. ∎

News From The Help Desk

Our Most Common Tech Calls

COMPILED BY KRIS GLASER

Each month, we receive numerous technical support calls and email messages. Some computer problems are fairly common, and we find that many callers struggle to resolve the same issues. In this article, we cover some of the most common or timely tech support questions and provide our solution for each of them.

Q I would like to connect two monitors to my computer so that I can look at one application on one screen and another application on the other screen. How can I make this work?

A Setting up two monitors on your computer is an easy task, especially if you already have a video card that supports dual monitors (check your users manual or simply look on the back of the card for two VGA [Video Graphics Array] or DVI [Digital Visual Interface] ports).

If your current video card only supports one monitor, purchasing a second video card that's compatible with your existing setup will provide you with another monitor port and enable you to set up dual monitors. Before you shop, make sure that your PC's motherboard has an available PCI-E (Peripheral Component Interconnect Express) or PCI slot that can accommodate the card.

If you are using a laptop, you'll likely be able to connect a monitor without any additional purchases, as most laptops have a VGA or DVI port. You can use the extra monitor and your laptop's screen simultaneously.

Once you have the necessary hardware to support two monitors, go to the Control Panel, Appearance And Themes (Appearance And Personalization in Windows Vista), and choose the Display section (in Vista you'll have to click through the Personalization section to reach the Display Settings options). Click the Settings tab (called the Monitor tab in Vista) and take note of the two monitor icons labeled 1 and 2. Select monitor 2 and checkmark the box next to Extend My Windows Desktop Onto This

You can increase your viewing area by connecting an additional monitor to your computer and configuring settings in Display Properties.

Monitor. Click Apply and watch as your Desktop expands over both of the monitors.

Q I recently bought a new computer and plan to donate my old system to a local organization. I want to delete any personal information from the hard drive but leave the OS (operating system) and applications intact. How can I be sure to completely erase my sensitive files?

A You might think that when you delete a file from your hard drive that it's gone forever. But even after you delete a file from the Recycle Bin, it can often be restored using data recovery software. Such software can be a life saver when you accidentally erase an important file, but if your hard drive falls into the wrong hands, data recovery software could put even your deleted personal information at risk.

If you plan to sell or donate your computer, the best way to protect sensitive data that's stored on the hard drive is to use a special program called a file shredder (also known as shredding software). File shredding software works by writing over files several times in specific patterns so that recovery software cannot reconstruct file data. There are many free shredding programs available, such as LSoft's Active@ KillDisk (www.killdisk.com) or Eraser (eraser .heidi.ie). KillDisk software lets you reformat your entire hard drive or wipe unused space, and Eraser lets you erase single files or folders and leave the OS and other applications intact. Keep in mind that writing over your files can be a lengthy process, so be sure to allot yourself plenty of time before you donate your computer.

Q When I use the Start menu to shut down my computer, it won't turn off. I have to press and hold down the Power button until the computer shuts off, and when I reboot, Windows sometimes tells me that it wasn't shut down properly and starts running ScanDisk. How do I get my computer to shut down correctly?

A Usually when a computer refuses to shut down, there is a program or application still running in the background. Because all programs must be ended in order for the computer to turn off, the computer hangs on the shutdown screen while it tries to end the program.

The first step is to determine which program is preventing the computer from shutting down. Before you
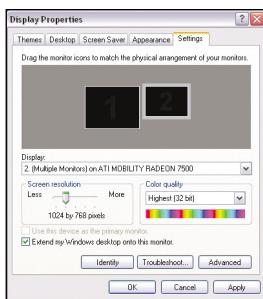
turn off your computer, simultaneously press the CTRL, ALT, and DELETE keys on your keyboard and select Task Manager from the pop-up box. On the Applications tab, end any programs that are still running and retry the shutdown. If the computer still hangs, reboot and go to the Start menu and select Run. Type **msconfig** in the box and click OK. (In Vista, type **msconfig** in the Start Search box.) This will open the System Configuration Utility window. Under the Startup tab, uncheck any programs that don't need to be loaded when the computer starts up (you can always recheck them later). Choose programs that you think might be the culprit (perhaps you recently installed a new program and then the problems began). Try again to shut down. You may have to enter the System Configuration options again and uncheck additional programs until the troublesome program is found.

Once you find the offending program, try uninstalling and reinstalling it to be sure there are no errors that conflict with Windows shutdown.

Q The icons on my Desktop suddenly disappeared. The Recycle Bin is missing, and if I create a shortcut for the Desktop, it doesn't show up. I can change my wallpaper in the Properties dialog box, but the icons are still nowhere to be found. How do I get my icons back?

A It might appear that your icons are gone forever, but the most likely explanation is that the Desktop settings were somehow altered. To bring your icons back, right-click anywhere on the Desktop and mouse over Arrange Icons By (View in Vista) and make sure there is a check mark next to Show Desktop Icons. Once this option is selected, any Desktop icons should appear within a few seconds.

If you're only missing the Recycle Bin, or the Recycle Bin doesn't show up with the rest of your icons, try the following suggestions. In Windows Vista, navigate to the Control Panel and choose Appearance And Personalization. Click Personalization and then choose Change Desktop Icons. Checkmark the box next to Recycle Bin.

The Windows XP instructions are slightly more difficult. Go to Start, click Run, type **regedit** in the box, and click OK. Locate the Registry key HKEY_LOCAL_MACHINE\SOFTWARE\MICROSOFT\WINDOWS\CURRENTVERSION\EXPLORER\DESKTOP\NAMESPACE. Right-click the Registry key, point to New, and click Key. Create a new key by typing **{645FF040-5081-101B-9F08-00AA002F954E}**

You can show or hide your Desktop icons by simply right-clicking the Desktop and adding or removing the check mark next to Show Desktop Icons.

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and pressing ENTER. Click the new key you created, and, in the right pane, double-click the (Default) entry. In the Edit String box, type **Recycle Bin** in the Value Data box and click OK.

For other suggestions about replacing the Recycle Bin and for information about backing up your Registry, go to support.microsoft.com, type **KB810869** in the search field, press ENTER, and click the related link.

Q I recently bought a USB flash drive to take with me on my travels. I am worried, though, that if I lose it, the personal files I have saved will be at risk. Is there any way to password-protect my USB flash drive?

A Many computer users own at least one flash drive but most never give much thought to encrypting them, even if they are regularly attentive to data-security issues on their computers. But your flash drive can be password-protected, too, which protects your data if your drive is lost or stolen. You can purchase a specially made USB drive, such as the IronKey ($79, 1GB; www.ironkey.com), which is already encrypted and offers additional protection against keyloggers and Web attacks. You can also use encryption software, such as TrueCrypt (www.truecrypt.org), which adds a password to your current USB flash drive. Keep in mind that although many encryption programs are free and offer another layer of security, they can be easily disabled. A pre-encrypted flash drive cannot be disabled and is much more secure. ▌▌

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Car problems don't care if you have an important business trip or 4th of July getaway planned. So what do you do when that dreaded "Check Engine" light comes on just hours before your big trip? Drive straight to the mechanic? Cancel your trip? Maybe it's just a loose gas cap. But what if it's something expensive that will take days to fix? Thanks to the revolutionary CarMD handheld device, now virtually everyone who owns a vehicle can quickly and easily solve automotive repair mysteries – right from home.

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When your car's "Check Engine" light appears, just plug the CarMD handheld device into your vehicle's Data Link Connector (DLC). The DLC is a small port found right under the dashboard on all 1996 and newer vehicles. It's the same place your mechanic plugs in his expensive diagnostic tools. Not sure where to look? Visit www.CarMD.com to search by year, make and model.

In seconds, CarMD beeps to confirm the test is complete. Then the tool's built-in LEDs let you know how severe the problem is (Green = OK, yellow = possible problem, red = service required). A yellow light can even help you catch a hidden engine problem before you're miles into your next road trip.

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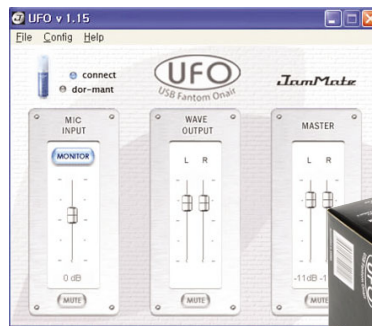
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Simple & Powerful Portable Audio Recording Setup

All you need to record audio is a laptop or desktop computer and the Infrasonic UFO Fantom Mic.

Internet radio hosts, DJs, and aspiring recording artists have always been faced with the challenge of working with technology. There have always been multiple cables, interfaces, and other hardware. A microphone was the least complicated part of the process—if you had the right equipment to go with it.

With the UFO Fantom Microphone available in North America from Auzentech, the power of a full audio recording setup meets the ease of use of a microphone.

How It Works

The UFO Fantom Microphone combines a **condenser microphone** that features a large one-inch diaphragm, a **Fantom Mic Preamp**, and an **audio interface** into a single device.

Just plug the UFO mic into your computer's USB port and record. The **USB port provides power**, and with the built-in headphone amp there's no need for an external mixer.

Learn More

- Manufacturer:
  http://www.infra-sonic.com/ufo
- North American Distributor:
  http://www.auzentech.com/ufo

Features & Benefits

- The JamMate™ UFO Fantom Microphone requires no external power supply
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How It Works

The Wireless N Home Networking Kit TEW-652BRPK from TRENDnet features an 802.11b/g/n router coupled with a Wireless N USB Adapter you plug into your desktop or notebook computer. The Wireless N USB Adapter comes with one-touch WPS (Wi-Fi Protected Setup) technology, so setup and installation is quick and easy. The Wireless N Home Networking Kit offers a strong security barrier, featuring wireless encryption and double firewall protection, to guard your data and keep it away from cyber-criminals. Additionally, MIMO antenna technology boosts its wireless coverage and reduces dead spots that would prevent you from connecting to your wireless network.

Features & Benefits
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Chances are good that your hard drive—like mine—is littered with short video clips of YouTube quality. Or camera phone quality. Or worse.

From the Dancing Baby back in the day (c'mon, admit that you downloaded it, too) to the latest email forward of a dog dreaming, your PC packs more visual entertainment than most cable channels.

Then again, your video clips haven't aged well, have they? You've upgraded your monitor once or twice over the years, not to mention your TV, but your cornucopia of MPEG (Moving Picture Experts Group) and WMV (Windows Media Video) files remains low-res and low-quality.
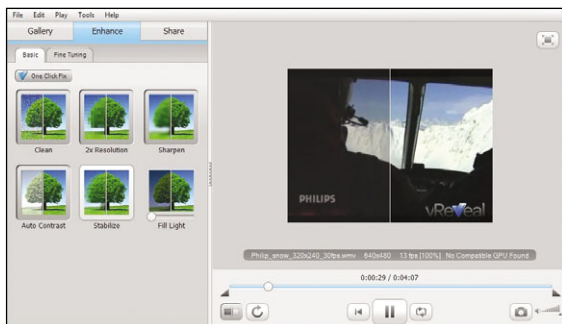
MotionDSP's vReveal can help. It's a standalone application that sharpens video clips, reduces their blockiness, corrects their color and contrast, brightens dark scenes, and even blows them up to DVD (480p) or high-definition (720p) resolutions. It doesn't let you capture footage, rearrange scenes, or make video DVDs; you'll still need editing or authoring software for that. vReveal can rotate, trim, and save still images from your clips, but it mainly concentrates on making your files look their best.

The cool part is that if you have a very new Nvidia-based graphics card, it can speed up vReveal's processing by four to six times using Nvidia's CUDA (Compute Unified Device Architecture) technology. (Support for early 8000-series Nvidia cards is on the way in a future update.) The software analyzes every frame of video, plus the frames before and after it, to determine which parts of the picture are the subject and which are temporary noise or compression artifacts. It also breaks up the frame into chunks and distributes them to each core in your CPU or stream processing unit in your compatible graphics card for the fastest enhancement possible with your hardware.

That's good news, because even if you have a quad-core CPU, it takes quite a while for vReveal to work its magic. My dual-core 2.4GHz Athlon 64 X2 took about 3.5 minutes to correct a 16-second video, for example. With CUDA enabled on a 9600 GT graphics card, the processing took only 53 seconds.

It takes mere minutes to get the hang of vReveal. Simply import a video file, click the One Click Fix icon, and click Save To Disk. Of course, you can also choose and adjust individual enhancements, if you prefer. I had to do this several times when I thought that vReveal saturated the color too much on particular clips.

You'll see a preview of the enhancements' effects on the right. This will be rather jerky on most PCs, but the saved file will play as smoothly as the original. Speaking of which, vReveal saves enhanced files under new names, so you won't have to worry about the program altering your original file.

vReveal works with Windows XP/Vista in both 32-bit and 64-bit versions. There's a 30-day trial edition, but it stamps a vReveal logo on the bottom right of the enhanced clips.

vReveal's compatibility with video file formats depends in part on the other software you have installed. For example, it can handle MPEG, WMV, AVI (Audio-Video Interleaved), and ASF (Advanced Systems Format) on its own, but if you have QuickTime or a third-party codec (compressor/decompressor) pack installed, you can process files in other formats, too. However, vReveal currently can only save files as WMV or uncompressed AVI, and the latter makes files too big to be practical. Still, there's an easy YouTube uplink.

This is only version 1.0 of vReveal, so I can't fault MotionDSP too much for the occasional hangs I encountered. Also, the software errored out once when I tried to process a batch of files in one go. Most of the time, vReveal worked pretty well.

You can't expect miracles with vReveal, but you can definitely see a noticeable improvement in your videos. For my part, I'm looking forward to sharpening my substandard camcorder's footage of my first hours with my daughter. Aren't computers cool? ∎

vReveal 1.0
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(650) 288-1164
www.motiondsp.com

A Bright Idea
Iqua's Solar-Powered Bluetooth Headset

TARA SIMMONS

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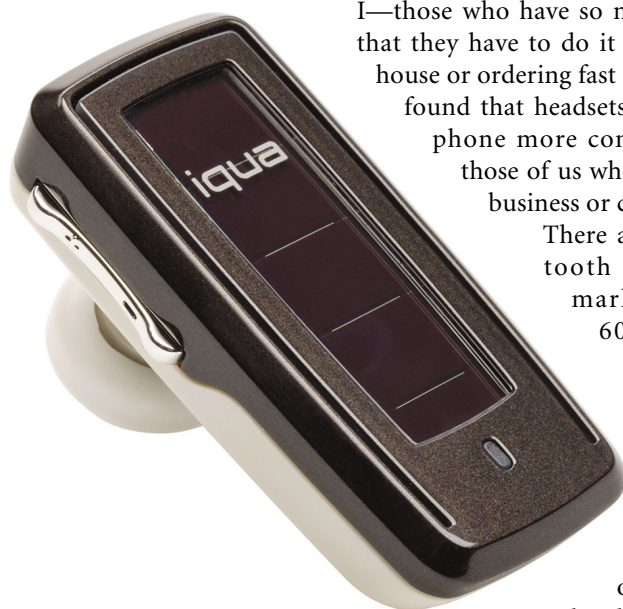
Iqua 603 Sun
$99.99
Iqua
info@iqua.com
www.iqua.com

Whether it's because people want to keep their hands on the wheel and abide by local cell phone use laws, need to multitask, or just want to look like they're talking to themselves while in line at the grocery store, Bluetooth headsets have become pretty popular. Not long ago, I thought these headsets were designed for people who are apparently far more popular than I—those who have so many calls to make that they have to do it while cleaning the house or ordering fast food. However, I've found that headsets make using a cell phone more convenient, even for those of us who don't run a small business or chat incessantly.

There are plenty of Bluetooth headsets on the market, but the Iqua 603 Sun, which I tested recently, is (according to Iqua) the first to implement a mini solar panel. The panel makes up most of one side of the headset and also acts as a Power button and Answer/End Call button. For the initial charge, users have to plug the headset in with the included power cord, but after that, theoretically, you may not need to use the charger ever again if you live in a climate with abundant sunshine. Any time it's exposed to sunlight, the solar panel will automatically collect power to charge the battery. Just stash the Sun on your car's dashboard or prop it up in the window at work to collect some rays on sunny days, and you won't need to bother with the power cord. The device's talk time is rated at up to 12 hours. Using power from the sun rather than an outlet will certainly save

energy, but the real appeal here for me is the convenience factor. A Bluetooth headset doesn't require a lot of juice, but it's easier to remember to throw it on your dashboard on the way to work than plug it in at night.

The device is simple to set up. Connecting it with my Bluetooth-enabled cell phone was similar to the setup process of any Bluetooth headset: Just turn the headset on, put it into pairing mode (press and hold both the volume up and volume down buttons), and search for it via your cell phone's Bluetooth settings. You can pair the headset with up to eight separate devices (but you can only use it with one of the paired devices at a time).

Sound quality on the headset was solid. People I called had no trouble hearing me, and the audio on my end was clear. Sometimes I wished the volume was a bit louder, but in moderately quiet environments, it worked well. At 1.89 x .98 x .47 inches (HxWxD), the Sun is bulkier than some of the sleek Bluetooth headsets you'll find on the market, but it's still light (less than half an ounce). The headset's earpiece fit in my ear with a bit of maneuvering, but it was just large enough that I wouldn't be comfortable wearing it for long periods of time (I have small ears). Unfortunately, the included earhook didn't do much to make it more comfortable or help it stay snugly in place. Still, it stayed put while walking and during other light use.

Besides the basic answer and end call functions, you can also use the Sun to ignore an incoming call, redial the most recently called number, mute your voice, shift calls from the headset to the phone and back, and dial with voice commands (when supported by the paired cell phone). The functions worked as described in the users guide and were simple enough to easily remember after a few trials. Also included, a carrying strap connects to the device via the mini USB port, presumably so you can hang the headset around your neck when not in use.

The Sun is a simple device, but it works well, and the convenience factor of not having to plug in your headset regularly makes the Sun shine in a crowd of Bluetooth headsets. ∎

Speakal Unleashes The iBoo
Ghostbusters Need Not Apply

BLAINE FLAMIG

SEND YOUR COMMENTS TO
blaine@smartcomputing.com

iBoo
$89.99
Speakal
sales@speakal.com
www.speakal.com

Back in fall 2008, I crossed the line and judged a book by its cover—or more specifically, a pig by its skin. Upon first encountering Speakal's iPig ($129.99) iPod dock (November 2008, page 16), I wrote it off as another cutesy iPod accessory aimed at kids, something that looked adorable but probably wasn't going to measure up performance-wise. Turns out, the iPig was anything but a stinker. Sure, its oddly entrancing half Porky Pig, half Pacman appearance hogged a fair share of positive press the dock gained after its release, but those who looked behind the iPig's cutie-pie exterior also discovered just how good the 2.1 stereo audio it output sounded via a built-in subwoofer and four satellite speakers. Throw in such unnecessary but fun extras as touch-sensitive ears for controlling the volume and an LED-backlit mouth that glowed green when performing functions, and the iPig was a no-brainer for anyone seeking an attention-grabbing dock that didn't sacrifice quality. Soon after, Speakal expanded the cuteness factor by adding the equally adorable iPanda ($129.99) to its zoo with all the iPig's audio abilities.

Just when it seemed Speakal had exhausted its supply of cuteness, the company recently released the iBoo. Although I'm still unclear why Speakal ventured outside the animal kingdom for inspiration for its latest dock, I can tell you the iBoo is every bit as endearing as its four-legged brethren. Better, the iBoo isn't a simple rehashing of an idea that has worked well for Speakal in the past. Unlike the iPanda, which essentially slipped a different skin over the iPig's same bones, the iBoo sports several significant cosmetic and performance-related changes. As Speakal's CEO David Solomon aptly puts it in an iBoo-related press release, in a "product category saturated with commonality," the iBoo manages to set itself apart by possessing some actual substance to go along with its "ah shucks, isn't that adorable" exterior.

Part of this substance includes the iBoo carrying a lighter price tag than the iPig and iPanda, knocking off roughly $40 to create an entry-level dock segment for Speakal. Physically, the biggest difference between the iBoo and iPig/iPanda is the use of only two satellite speakers vs. four. Additionally, the iBoo knocks the total output power back to 15W vs. the 25W the iPig/iPanda support. This translates into the iBoo's subwoofer being less powerful and audio output being slightly duller with flatter horns, strings, and keyboards than the iPig's richer, thicker bass and livelier midranges. That said, the iBoo's audio quality still leaves it sitting firmly even or ahead of its equally priced dock competitors. Elsewhere, the individual treble and bass controls that Speakal gifted the iPig with are gone with the iBoo. Additionally, Speakal moved the iPig's 3.5mm jack, power switch, and power input from the iPig's backside to underneath the iBoo—an inconvenient, somewhat perplexing decision. Positively, the iBoo is considerably lighter overall, and its one-piece power cord is thinner, lighter, and less cumbersome than the iPig's bulky, two-piece cord.

Speakal carried the iPig's touch-sensitive controls over to the iBoo, cleverly embedding touch-sensitive areas to control volume levels in iBoo's right and left temple areas. Additional touch-sensitive areas for Play/Pause, Reverse, and Forward reside at iBoo's center. Using any area only requires a touch or swipe of a fingertip to perform the given task. Elsewhere, the iBoo's mouth doubles as a sensor for the included 12-button remote control, which also controls a docked iPod. Rubber on each of the iBoo's four corners, meanwhile, prevents the downward-firing subwoofer from rattling, while an LED underneath the iBoo gives the room it's located in a nice bit of blue, red, or white ambient lighting depending on the iBoo color option you choose.

Ultimately, in a product category where too many companies put more emphasis on looks over performance, the iBoo gets it right by balancing an eye-grabbing appearance with solid audio output. Speakal ships the iBoo with a 3.5mm input cable for attaching non-iPod devices (laptops, DVD players, gaming consoles, etc.), as well as iPod adapters. ∎

Shoot & Share
Camcorders You'll Flip For

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If your nephew is graduating from college, you'll likely sit through a two-hour ceremony. Your granddaughter's dance recital could last for up to three hours, and a family trip to the zoo is certainly an all-day event. For these occasions, you could plan to pack up the camcorder, haul around an extra battery pack, and capture those memories in full glory—no matter how long they last. But what about on-the-go candid moments when you never have your camera handy? I looked at two pocket camcorders that will ensure you'll never have to miss any of those unplanned moments.

First introduced in 2007, the Flip Ultra recently got a makeover. The second edition is now offered in standard-definition (Flip Ultra) and high-definition (Flip UltraHD) models that boast expanded features. The idea behind the Flip Video series is simplicity, portability, and affordability, and the new Flip Ultra line delivers on all three. With its one-touch recording and instant playback, the Flip Ultra's interface is so self-explanatory that I didn't even need to read the instructions. And, at 4.25 x 2.19 x 1.17 inches (HxWxD), it's just so dang cute. But, don't let the little guy fool you—the Flip Ultra has a lot to offer in that tiny package.

Both versions look almost identical, except that the UltraHD has an HDMI (High-Definition Multimedia Interface) output for connecting it directly to your HDTV (mini HDMI cable sold separately), while the Ultra SD has a composite video output (cable included). Both are available in black or white, and the Ultra SD is also available in yellow or pink.

One improved feature is the 2-inch screen. (The first version sported a 1.5-inch screen.) Both models have 2X digital zoom, which isn't a lot, but these cameras are geared toward nonprofessionals capturing video on the go. If you plan to shoot distant subjects that require a more powerful lens, or if you want to record

Flip Ultra & Flip UltraHD
$149.99; $199.99
Pure Digital Technologies
(415) 445-7626
www.theflip.com

long events, the Flip Ultra models are probably not the best camcorders to use in those situations.

The HD model shoots at 1,280 x 720 resolution and has 8GB of built-in memory to record up to two hours of video (quite an improvement over the 2GB offered in the first version). It's powered by an included rechargeable battery pack, or you can opt to use two AA batteries. On the flip side (pun intended), the SD model has 640 x 480 resolution and records up to two hours on 4GB of memory. It comes with two AA batteries, or you can purchase the rechargeable battery pack for $24.99.

The Flip fit comfortably in my hands, and I often used only one hand while recording. However, upon watching the playback, I discovered I had some pretty shaky footage at times. If you tend to have unsteady hands, use two hands or take advantage of the included tripod mount for important events.

I was pleasantly surprised by the quality of video produced by both camcorders. My HD video was sharp and bright, even in low-light conditions. I could really see the difference when I connected the UltraHD to my HDTV. It's definitely worth spending the extra $50 for the ability to record in high-definition.

The integrated FlipShare software makes sharing your video just as easy as recording it. The camcorder has a flip-out arm that you simply plug into your computer's USB port (which also conveniently recharges the battery pack). The software automatically launches and lets you edit and create custom movies, save and organize video files, capture still shots from your video, email videos to friends and family, or upload videos to sites such as YouTube or MySpace.

I also learned that the Flip's small size made for some pretty inconspicuous filming, and my subjects often didn't even realize the camera was rolling—which I've found usually makes for some of the best videos. On a final note: Remember that high school reunion I wrote about last month? It's quickly approaching, and I'm hoping the Flip UltraHD will help me capture some unforgettable memories of my class reminiscing about our glory days. Maybe I'll even shoot some video that I can use for our next reunion 10 years from now—and I'll quite possibly gain a little blackmail footage in the process. ❚❚

Head-To-Head: Projectors
Beyond The Office & Classroom

There are some misconceptions about projectors that permeate the consumer market. Many people view them as devices that you only see in lecture halls and conference rooms or perhaps in the romper rooms of extreme home-theater enthusiasts.

But as is often the case in life and consumer electronics, a little education goes a long way toward helping people understand how something is beneficial. Below is a sampling of several affordable portable projectors with plenty of features.

Note that although there are many ultra-portable, tiny projectors such as pico projectors on the market, those devices are generally under-featured for applications other than small-screen presentations and multimedia viewing. Here, we'll focused on mid-priced portable projectors that offer features you can use in an office, home theater, or anywhere else you want to enjoy your projector's capabilities.

Important Features To Consider

There are many factors to weigh when purchasing a projector, but the bottom line is that you need to find a device that suits the applications you will use it for. With that in mind, consider the features that will have the greatest impact on your purchasing decision.

The go-to feature for projectors is how many lumens a given device has. Simply put, **lumens** are a measure of brightness; the higher the number, the brighter the projection. For smaller rooms with little or no ambient light, a projector with fewer lumens (such as 1000) will likely be fine, but if you're trying to project in a large room with lots of windows and sunlight, a projector with more than 2000 lumens will be more suitable.

A projector's resolution is also important, as the image can only be as clear as the device's supported resolution. You'll find most projectors support HD resolutions, including 720p and 1080p, as well as screen ratios typical of TVs such as 4:3 and 16:9. Some projectors have the ability to switch screen resolutions to accommodate the media it's displaying.

Further affecting the image quality is a projector's contrast ratio and throw ratio. Like an HDTV, the **contrast ratio** is the measurement of difference between the device's darkest black and brightest white. A lower contrast ratio (about 1000:1) will yield lower-quality color depth than a high contrast ratio (about 10000:1). The **throw ratio** is technically the distance from the projector to the screen divided by the image's width; in more simplistic terms, it's how far away you can move the projector from the screen while maintaining a crisp, clean image.

You should also ensure the projector has sufficient connectivity options, such as HDMI (High-Definition Multimedia Interface), component video, composite video, and S-Video ports, as well as VGA (Video Graphics Array) and DVI (Digital Visual Interface) ports. Also look for low fan noise so as not to interfere with the media's sound and note the weight and size of the projector as this will tell you how portable a projector truly is.

The projector you buy will operate with either DLP (Digital Light Processing) or LCD (liquid crystal display) technology. In the recent past, many equated DLP projectors with smoother video, deeper blacks, and higher contrast ratios, while LCD projectors were less expensive, had richer colors, and produced less heat. Today, the technologies are much closer in quality and features.

The two differ in how they create images. LCDs transmit light through three glass panels, which is split into red, green, and blue and creates the image you see on the screen. DLP projectors reflect light off of millions of tiny mirrors, which then travels through a color wheel to produce an image.

InFocus IN2106

The Roundup

We put five projectors through the paces to check out their respective strengths and weaknesses. We looked at projectors in roughly the $800 to $1,400 range; this excludes both very high-end projectors and tiny, inexpensive projectors with minimal features.

INFOCUS IN2106

The IN2106, a compact yet somewhat heavy projector at 6.9 pounds, features a 5-segment color wheel, a decent contrast ratio of 2000:1, and a resolution up to 720p or 1080i. The zoom is a modest 1.1X, although it's a fairly bright projector at 2500 lumens. Though it isn't ideal for most applications, the IN2106 has a convenient 2W mono speaker built in so you aren't left high and dry if you need audio and don't have a system to connect to the projector.

The IN2106 has plenty of ports to connect a plethora of devices, including two VGA ports, two sets of component ports, S-video, composite, USB, RS-232 (Recommended Standard 232), and an audio mini jack. It also has a monitor output if you want to have the displayed image appear on your computer monitor, as well. However, the projector lacks HDMI and DVI ports.

There is plenty to like about the IN2106, including the ability to connect two computers and the convenient USB port that automatically retrieves firmware updates for the projector from your computer when connected. The menu is easy to navigate and quite intuitive, and the remote control has the same button layout for navigation. The remote itself fits nicely in the hand and sports bulbous buttons that provide for easy tactile navigation, which is ideal if you don't want to look down at the remote control all the time. It also boasts a filter-free design.

There is a host of aspect ratios you can choose from, including 16:9, 5:4, 4:3, and 16:10. The presets are excellent, as well; you can toggle through many options, including ones that optimize the color for presenting on blackboards, whiteboards, beige walls, bright rooms, and more. You can even create your own use presets.

SANYO PLC-XC55

The Sanyo PLC-XC55 is quite bright with a whopping 3100 lumens

Sanyo PLC-XC55

Vivitek D326MX

and casts a sizable projection even at close ranges. It sports a nice variety of connectivity options, including DVI, VGA, component, composite, and S-video, as well as a stereo mini jack and an RS-232C control. It supports resolutions up to 720p or 1080i.

For a portable projector, this is a big machine; really big, actually, at 8.8 pounds and 3.3 x 16.1 x 10.3 inches (HxWxD). Although it's portable, you may not want to carry around something this size on a regular basis.

The PLC-XC55 is equipped with several intriguing features, including Sanyo's AMF (Active Maintenance Filter) system, which is designed to make changing the filter a snap; a relatively powerful 7W internal speaker; and Auto Keystone Correction, which automatically adjusts the angle of the projected image to help ensure a perfectly rectangular projection, if you move the projector.

It also sports several screen ratios, including Wide, Full, and Custom, as well as plenty of options for color modes. The remote control is well designed and has some smart extras to go along with the typical navigational functions. With the remote, you can control the lamp brightness, mute the audio and video, control digital zoom, and toggle between video sources.

VIVITEK D326MX

The Vivitek D326MX is a tiny projector, weighing in at just 3.2 pounds and measuring 2.8 x 8.66 x 7 inches. If your greatest need in a portable projector is power in a small package, this is ideal for you. It even comes with a padded carrying case for good measure.

It has a nice selection of modes for virtually any application, including Bright, Game, Movie, TV, Presentation, Data, and User. You can choose from several different aspect ratios, including 4:3, 16:9, LetterBox, and Fill. The projector supports resolutions up to 720p or 1080i and sports a 5-segment color wheel.

The connectivity options are plentiful, with USB, audio, S-video, composite video, VGA, and HDMI ports. It also has a 1W built-in speaker.

The remote control is correspondingly tiny, utterly convenient for portability but easy to lose, and it fits poorly in the hand. It has basic navigational buttons, as well as the keystone adjuster, Freeze, Auto, Source, and Mute buttons.

One issue with the D326MX is that the display area is quite small at less than 10 feet away from the wall. With 2600 lumens and a solid 2500:1 contrast ratio, you can back the projector up quite a bit and still expect a bright, rich image, but if space is at a premium, you could run into trouble.

OPTOMA HD71

The Optoma HD71 is an ideal all-around projector. If you need your projector for multiple uses, such as connecting to an HDTV, computer, VCR, Blu-ray Disc player, and more, this device sports just about every port you can imagine needing. It has HDMI and DVI-D (DVI-Digital), as well as VGA, RS-232, USB, S-Video, composite video, component video, and three discrete stereo audio channels. It also has a Kensington lock and a +12V relay to connect, for example, a motorized screen.

Its native resolution is 16:9, although it supports 4:3 and LBX (LetterBox), as well. The image quality, powered by DLP technology, goes up to 720p and sports a 6x color wheel. The HD71 is fully HDCP- (high-bandwidth digital content protection) compliant, ensuring that it's compatible with the copy protection technology present in an increasing number of audio/visual devices.

The remote control is perfect for virtually any application—home, office, or otherwise—with buttons to change the input, change the aspect ratio, bring up the menu, and several

Optoma HD71

other functions such as keystone correction. It's smartly designed and packed with features you would want at your fingertips. The buttons are even backlit and feature icons on each, letting you know what it does.

The menu navigation is a bit confusing, which could be a frustration for some users. Although the HD71 is a snazzy-looking white device, it's somewhat bulky and weighs in at 6.3 pounds, which is not quite ideal for a portable projector. The size of the projected image is somewhat small—akin to a large HDTV at a distance of 7 or 8 feet—and the fairly weak zoom doesn't help matters much. The image gets substantially larger when the projector is placed just a few more feet away, but bear in mind that in close quarters, your effective screen real estate may leave something to be desired.

Still, the smorgasbord of connection options, bright 2400-lumen lamp, and expertly designed remote control compensates for most limitations in other areas.

EPSON POWERLITE 1720

The Epson PowerLite 1720 is a featherweight projector at just under 4 pounds, though it's rather large—2.8 x 11.2 x 7.9 inches. It comes in a convenient carrying case and with a VGA cable, USB cable, and audio cables.

The PowerLite 1720 has limited connectivity options with only VGA, S-Video, composite video, USB, and a mono audio jack. However, this also simplifies things a bit and makes it clear that you'll most likely be using it with a computer. In fact, it's a perfect partner to a laptop.

Epson PowerLite 1720

With this projector and a laptop, you can effortlessly use it for a presentation, working on the computer, browsing the Internet, or watching movies virtually anywhere. It sports multiple settings for the remote control sensor—front, rear, front/rear, or off—to accommodate whatever positioning a room requires.

Additionally, the PowerLite 1720 offers a nice variety of color modes to ensure the image looks its best wherever you set it up. The different modes include Game, Presentation, Text, Theater, Photo, sRGB, and Blackboard. This setting is one of the first you'll encounter in the easy-to-navigate menu. You can also adjust the brightness to fit whatever room or application you encounter.

A knock on this projector is the lack of available aspect ratios. You can set it to 4:3 or 16:9 only. There is a second area in the menu where you can set the resolution to Wide or Normal; this will be confusing for people, to be sure. Also, the throw ratio and zoom capabilities are quite limited. The 1W built-in speaker will do in a pinch, but it's about as loud as a notebook's speaker.

Nevertheless, with 3000 lumens and a 2000:1 contrast ratio, the image the PowerLite 1720 displays is huge and bright. The remote control is a strong point, as well. It puts a great deal of power and flexibility in the palm of your hand. In addition to being able to toggle between different inputs, access menu and navigational items, control the digital zoom, select the color mode, and much more, you can define different automatic functions for the User button, including Brightness Control and turning on and off Closed Captioning and Resolution.

The Epson PowerLite 1720 promises a display area of 30 to 300 inches, and it can deliver on that promise. ▐▌

by Seth Colaner

PRODUCT INFORMATION

	Price	Company	Contact Info	URL	Notable features
IN2106	$949	InFocus	(800) 294-6400	www.infocus.com	Unique filter-free design
PLC-XC55	$1,495	Sanyo	(619) 661-1134	us.sanyo.com	Very bright at 3100 lumens
D326MX	$899	Vivitek	(877) 603-3582	www.vivitekcorp.com	Only 3.2 pounds
HD71	$1,299	Optoma	(408) 383-3700	www.optomausa.com	Has a plethora of ports
PowerLite 1720	$1,299	Epson	(800) 463-7766	www.epson.com	Huge display area

Month-To-Month Protection

Verizon Internet Security Suite

WinXP Vista

Unlike security suite providers that charge you by the year (some of which don't offer a free trial), Verizon asks you to pay on a monthly basis. For a nominal fee, you enjoy a wide array of features, including both security and PC tune-up tools, on up to three, six, or nine PCs (priced accordingly). Furthermore, the first 30 days are gratis, so if you don't like the suite, you can walk away without paying another penny.

The product includes antivirus, firewall, antispyware, fraud protection, parental controls, a pop-up blocker, privacy (Web data collection) protection, Wi-Fi security, and PC tune-up features. Per Verizon representatives, the protections include advanced functions that can identify emerging online threats before standard signature updates are available.

Getting Started

VISS (Verizon Internet Security Suite) downloads quickly over a broadband connection and installs easily. To download, you must sign in to the Verizon Broadband Services site. If you're not a Verizon customer, use the option to create a Verizon Utilities and Entertainment Products log-in at the bottom of the sign-in page.

From there, you download a small (1MB) Servicepoint utility that guides the process of program download and installation. During installation, Verizon lets you opt in or out of its service improvement program, which

Key Features: Verizon Internet Security Suite offers expansive security protection on a pay-as-you-go basis.

sends anonymous data back about your usage habits. As it installs the various components of the suite, the installer displays short paragraphs explaining what each does. When installation is complete, the wizard prompts you to restart the PC (required for service activation).

After restart, VISS runs a "conflicting program" utility that locates and optionally initiates the uninstall process of any potentially problematic existing security software on your PC. According to Verizon, the company configured VISS to be compatible with as many third-party security tools, such as ad blockers and spyware detectors, as possible. However, it will work most effectively if you follow its recommendations and uninstall any firewall and security suite products it highlights. (We like this feature of VISS. Many security suites simply tell you to uninstall all existing security programs first but

don't help you locate or uninstall them.)

Stay Safe

After conflict resolution is complete, VISS updates its malware definitions and then scans your PC's memory for running malware processes. If it finds any, it terminates them and then runs a virus scan. (This ensures viruses cannot hide behind "shield" programs.) Once the scan is complete, VISS activates the service and displays a list of activated applets.

At this point, the core components (antivirus, antispyware, firewall, and fraud protection) are enabled. To enable the others, users can open the interface from the icon in their System Tray or through the All Programs/Programs option on the Start menu. The interface is user-friendly, with the "on-off" selections for all tools presented on the same display. From there, users can drill down to establish custom settings, create passwords if needed (required for parental control), and perform other management duties.

Overall, we found VISS to be easy to navigate and use, with a set-it-and-forget-it approach many users will love. However, like many security suites, it will likely be too rigid for advanced users. Performance will vary from one PC to the next. If you're not happy with your current solution, VISS is worth a look. Be sure to cancel within 30 days if you don't want to keep it. ❚❚

BY **Jennifer Farwell**

Copy & Convert Music Quickly
Express Rip

Windows 2000   WinXP   Vista

Express Rip and its counterpart, Express Burn (free; www.nch .com.au), are fast and powerful ripping and burning tools we like better than those in Windows Media Player. (For the uninitiated, ripping converts an audio CD to files on your PC in the desired format; burning returns it back to CD.) If you don't currently have a standalone ripping and burning tool, give this pair a look.

Both offer free versions that support only MP3 and WAV files for audio. (Express Burn free version also supports burning data CDs.) Download and install either, and you'll enjoy a 14-day trial of the Plus version, which supports many more file formats. After that, the product defaults to the free version.

Key Features: Express Rip is high-speed ripping software with a variety of options for ripping quality.

We highlight Express Rip because it uses a proprietary ripping technology that is very fast and results in excellent quality with 128Kbps (the default for ripping to MP3) or higher bit rate settings. (Bit rate, available via Encoder Settings, is a measure of audio track compression; higher bit rates offer better quality but larger files.) Express Rip offers a wide array of bit rates, from 8 to 320. Express Rip also offers a High Quality Encoding (slower) option that produces spectacular results and still only takes a few minutes to burn a standard-length (about 72 minutes) CD. If you rip CDs to your PC mainly for loading onto portable MP3 players, the free version may be all you need. ∎
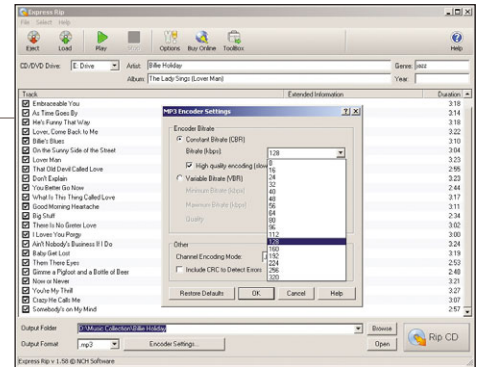
BY JENNIFER FARWELL

Browse The Web Anonymously
Covert Surfer

Windows 2000   WinXP

Many companies offer "erase your tracks" software designed to ensure you can surf secretly, but few take their approach to the extent of Covert Surfer. Here, users surf via a proprietary browser that prevents incidental data leakage onto the PC. Depending on how much you love your current browser, you may support or reject this idea, but there is little doubt it enhances security.

Covert Surfer installs to a USB device (or, optionally, your own PC to keep your activities secret) that you can then take to any PC where you surf. If you lose your USB key, Covert Surfer can destroy the drive the next time someone uses it to connect to the Internet (you'll have to repurchase the product if this happens).
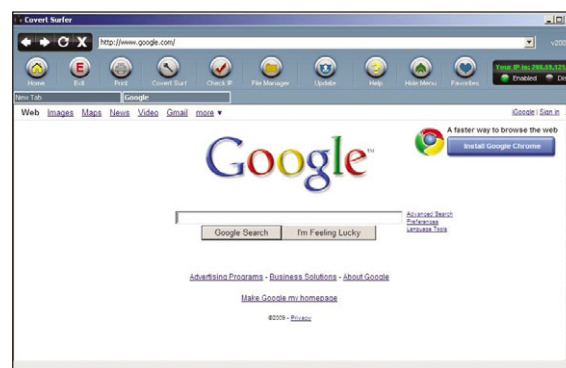
Key Features: Covert Surfer uses a combination of security techniques to ensure complete anonymity when you surf the Internet and send or receive email.

The company is serious about its stuff—it uses very stringent encryption to store the files you wish to save. It shreds everything else, such as temporary files, Registry settings, cookies, and other browsing data, when you are finished. In fact, it keeps your Internet data and movements so well shielded that it checks various databases before selling the product to ensure the purchaser is not on any restricted or watch list.

Covert Surfer is especially valuable for those users who frequently visit public computers. A free trial will let you determine if this product is right for you. ∎

BY JENNIFER FARWELL

COMPILED BY JOSEPH MORAN

Windows News

Microsoft: 96% Of Netbooks Now Sold With Windows

When the compact and low-cost laptops known as netbooks first began hitting the market in earnest over a year ago, the operating system they came with was commonly some flavor of Linux. Microsoft says that times have changed, and that these days the vast majority of the popular and petite portables now ship with Windows.

96% **Windows**
4% **All other OSes**
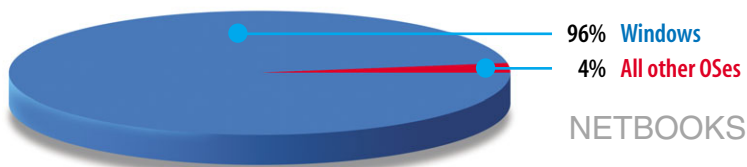
NETBOOKS

In an official blog posting, a Microsoft representative cited market data from NPD Group (which defines a netbook as an under-$500 system with a screen size of 10.2 inches or smaller) indicating that 96% of netbooks sold in the United States in February 2009 came with Windows, a figure up from less than 10% in the first half of 2008.

Of course, the majority of netbooks run Windows XP given that most lack the horsepower to run Vista. That should change with the release of Windows 7, which Microsoft has said will run well on netbooks. ▌

Free Support Ends For WinXP

After nearly eight years on the market and several deadline extensions, Microsoft has finally ended what it calls "Mainstream Support" for WinXP. The aging operating system has now entered an "Extended Support" phase, which means that free technical support is no longer available from Microsoft, though it can still be purchased on a per-incident basis if necessary.

The change in support status doesn't affect the availability of security fixes or other updates, which will continue to be released as needed. Extended Support for WinXP is currently scheduled to end on April 8, 2014. ▌

Microsoft News
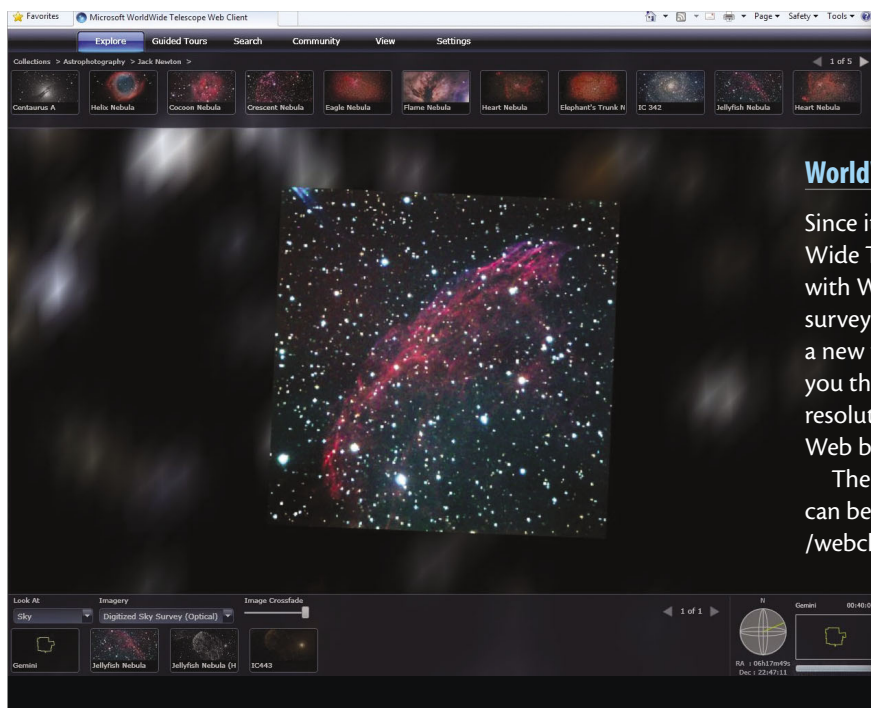
WorldWide Telescope Comes To The Web

Since its release last year, Microsoft's World-Wide Telescope software has given stargazers with WinXP or Vista systems the ability to survey the night sky from their Desktops. Now, a new version of WorldWide Telescope gives you the option to explore its terabytes of high-resolution astronomical images from within a Web browser.

The WorldWide Telescope Web Client Alpha can be found at www.worldwidetelescope.org /webclient. It requires Microsoft's Silverlight browser plugin, which is available for Internet Explorer, Mozilla Firefox, and Mac OS X's Safari. ▌

Windows Tips

Format A USB Flash Drive With NTFS In WinXP

Like most forms of storage, USB flash memory drives have become both spacious and relatively inexpensive—16GB drives typically cost less than $40, and many 32GB drives can be had for well under $100.

Flash drives usually come preformatted from the factory using the FAT32 (32-bit file allocation table) file system, but FAT32 limits the size of individual files to just under 4GB, which could be a problem if you need to store extremely large files such as system image backups or uncompressed movie formats.

You can get around the 4GB file size limitation on a high-capacity flash drive by formatting it with NTFS (NT File System). Vista will let you do this by default—just right-click the drive icon in Computer, choose Format, and then select NTFS from the File System drop-down list.

But WinXP won't let you format an NTFS flash drive unless you make a modification first. To do so, plug the device into the USB port and then open My Computer. Right-click the drive's icon, choose Properties, and then click the Hardware tab. Highlight the flash drive in the list of drives shown and click the Properties button. Finally, click the Policies tab, select the Optimize For Performance option, and click OK twice. Now WinXP will list NTFS as a flash drive formatting option as described above.

One important caveat: To avoid the possible loss of data, right-click your NTFS-formatted flash drive in My Computer and choose Eject before removing it or use the Safely Remove Hardware icon found in the Windows System Tray. ▮

By optimizing flash drives for performance instead of safe removal, you can format them using NTFS so they can store files larger than 4GB.

Mix Up Your Audio Volume In Vista

At any given time, you may have lots of different programs running, many of which are able to output some kind of audio. WinXP's volume control only lets you adjust the overall sound level or the volume of a select few devices, so if you crank up the volume to better hear a YouTube video, for example, the next sound you hear from another program may blast you out of your seat.

Vista's Volume Mixer avoids this problem by letting you adjust the audio level on a per-program basis. Right-click the volume icon in the System Tray and select Open Volume Mixer (or click the icon and then the Mixer link), and you'll see multiple slider bars that will let you raise, lower, or mute the volume separately for each audio-producing program you're running, as well as for Windows system sounds.

Unlike WinXP, Vista has a volume mixer than lets you control audio output for individual applications.

When you adjust a program's slider, Volume Mixer will remember the setting even if you close the program and open it again later. (If you're using a tabbed browser, only the active tab will appear in Volume Mixer.) ▮

Lights Out For Microsoft Encarta

Microsoft Encarta, the digital encyclopedia which started life on CD-ROM back in the days before the Internet, will soon be no more—Microsoft has announced that both the DVD and online versions of Encarta are being discontinued later this year.

Sales of Microsoft Student with Encarta Premium will have stopped by the time you read this, and the MSN Encarta Web site will be shut down on Oct. 31. More details, including information about subscriber refunds, are available at tinyurl.com/cb9czx. ▮

Internet Explorer 8 Released

With beta testing of Internet Explorer 8 complete, the final version of Microsoft's latest Web browser is ready for prime time and available for download at www.microsoft.com/ie8.

IE8 will be made available via Windows Update, but the rollout will take place gradually. The new browser will eventually appear as a High-Priority or Important update for WinXP and Vista systems configured to receive automatic update notifications. ▮

Windows XP
Customize The Start Menu & Taskbar

Ever since Windows 95 first rolled onto our home PCs, the Windows Start menu and Taskbar have been central to the Windows experience. Along with a face-lift, Windows XP brought several new features to that little strip at the bottom of the screen, some of which you may not even know are there. In this article, we'll take a close look at ways you can make the WinXP Taskbar and Start menu work for you. Before we get to the good stuff, though, let's make sure we have our terms straight.

Taskbar Geography 101

By default, the Taskbar is located at the bottom of the screen. At the far left of the Taskbar is the Start menu, and on the right is the System Tray, also commonly called the Notification Area due to various system notifications that appear here. The Start menu and System Tray are the two anchors of the Taskbar. Various Taskbar buttons and toolbars appear between these two anchors. Let's take a closer look at each of the major Taskbar components.

Start menu. The Start menu has been the heart of Windows since it first appeared in Win95. WinXP includes a reworked Start menu designed to make it easier to access commonly used applications and folders. If you prefer the old Win95 Start menu, however, you can revert back to it. We'll discuss customizing the Start menu later in this article.

System Tray. As we mentioned earlier, Microsoft commonly calls the System Tray the Notification Area.
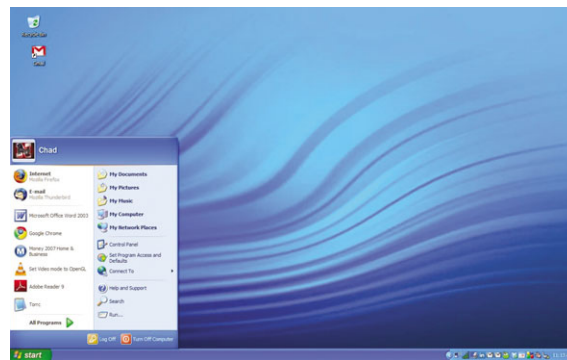
The default WinXP Start menu includes several enhancements over the classic Start menu, including the ability to quickly access commonly used applications.

The classic Windows Start menu is still available in WinXP. Although the classic Start menu may lack some of the features found in default Start menu, it is familiar and a bit more compact.

Undoubtedly, you've noticed the various system notifications that show up here. Most programs that run in the background have a corresponding icon in the System Tray. Inactive icons (icons that you haven't used or that haven't provided any recent notifications) are automatically hidden to reduce clutter. To view these inactive icons, click the arrow on the left side of the System Tray.

Taskbar buttons. For every open window, there is a corresponding Taskbar button. As you probably already know, you can move a window to the forefront by clicking that window's Taskbar button. You can also minimize or close a window by right-clicking its Taskbar button and choosing Close or Minimize.

Basic Customization

Now that we've got the terminology down, let's discuss some ways to optimize the WinXP Taskbar. One of the easiest changes to make is to move or change the size of the Taskbar. Before you can do either, however, you need to unlock the Taskbar. Right-click the Taskbar, and if there is a check next to Lock The Taskbar, click it to remove it. With the Taskbar unlocked, you can move it by clicking it and dragging it to another screen edge.

If you have too many open windows, the Taskbar may not be able to accommodate all the corresponding Taskbar buttons. If you want to see all Taskbar buttons at once, you can make the Taskbar larger. To change the Taskbar size,

position your pointer near the edge of the Taskbar so that the pointer changes to an up-and-down arrow. Click and drag the edge to make the Taskbar larger or smaller.

Toolbars

Toolbars reside in the Taskbar, giving you quick access to an application, Web site link, or folder. To select a toolbar, right-click an empty portion of the Taskbar, select Toolbars, and click the toolbar you want to add. Below is a brief explanation of two useful toolbars.

Quick Launch. Perhaps the most popular toolbar is the Quick Launch toolbar. This toolbar usually sits next to the Start menu and includes shortcuts to popular applications. Unfortunately, almost every application wants to install a shortcut here, making this otherwise helpful toolbar cluttered. The Quick Launch toolbar also includes a Show Desktop icon that minimizes all open windows, allowing you quick access to your Desktop.

Desktop. This toolbar also provides you with quick access to your Desktop but without having to minimize all of your open windows. From this toolbar, you can access any shortcut on your Desktop along with your My Documents, My Computer, My Network Places, and Recycle Bin folders.

Working with toolbars. As with the Taskbar itself, you can customize each toolbar to make it easier to work with. To resize or move a toolbar, you can click and drag the vertical set of dots that appear around each toolbar when you unlock the Taskbar. You can also reorder items within the toolbar by clicking and dragging them to a new location.

You can opt to cut, copy, rename, or delete items in a toolbar by right-clicking them. You can also add items to a toolbar by dragging and dropping them. When working with items in a toolbar, however, be aware of what type of toolbar you're working with. Deleting a shortcut in the Quick Launch toolbar, for instance, does not uninstall the application or delete the directory. Deleting an item from the Desktop toolbar, however, deletes the item from the Desktop, as well.

Customize Taskbar Behavior

Finally, you can alter the way the Taskbar behaves, making it easier to work with. To customize the Taskbar's behavior, right-click the Taskbar and select Properties. The Taskbar And Start Menu Properties dialog box appears. Under the Taskbar tab, you can alter certain aspects of the Taskbar and System Tray. The Start menu tab lets you customize your Start menu.

The Taskbar And Start Menu Properties dialog box lets you optimize the Taskbar and Start menu for your needs.

Taskbar. Most of the options here are self-explanatory. A couple of useful options are auto-hide and the ability to group similar Taskbar buttons. If you check the box next to Auto-Hide The Taskbar, the Taskbar only appears when your pointer is near the same edge of the screen as the Taskbar. This is a particularly handy way to get back more screen space if you've enlarged the Taskbar to accommodate more Taskbar buttons.

If you have several open windows but don't want to increase the size of your Taskbar, try checking Group Similar Taskbar Buttons. This groups all windows from an application together into one Taskbar button. For instance, if you have five Microsoft Word documents open at once, all five windows are combined into a single Taskbar button. To open a specific window, click the Word Taskbar button and then select the proper window from the list.

You can also customize the System Tray (called the Notification Area here) under the Taskbar tab. The most helpful option here is the ability to choose which System Tray icons to hide. Check Hide Inactive Icons and click the Customize button. System Tray icons are divided into current icons and past icons (past icons are icons from programs you've uninstalled or are no longer running). Click the drop-down list in the Behavior column for any given icon and choose to Hide When Inactive, Always Hide, or Always Show. Remember, hidden icons are still accessible by clicking the Show Hidden Icons button (a left-facing arrow) on the System Tray.

Start menu. Under the Start menu tab, you can choose to use the WinXP Start menu (the Start Menu option) or the older Win95-style Start menu (Classic Start Menu). You can customize either choice by clicking the Customize button.

To get to the most useful options for the WinXP Start menu, click the Advanced tab in the Customize Start Menu dialog box. The Start Menu Items section lets you select which items to display in the Start menu and how you want to display them. For instance, you can decide whether to display the Control Panel as a link that opens a window listing Control Panel applets or as a menu that lets you select a specific applet without first opening the general Control Panel window.

Options for the Classic Start menu are a bit more limited. The most useful options here are in the Advanced Start Menu Options section. From here, you can opt to expand the Control Panel (similar to displaying the Control Panel as a menu in the WinXP Start menu), Enable Dragging And Dropping, and Display Run. ▮▮

BY CHAD DENTON

Windows 7
What You Can Expect

When Windows Vista was first introduced, there was lots of excitement followed by some frustration and disappointment. While some loved Vista's slick new interface, others were bothered by its incompatibilities, nagging notifications, and pokey performance. After hearing the complaints and reports of users downgrading back to Windows XP, Microsoft is hoping for a better response to Windows 7. Currently in public beta, Win7 is designed to address issues that were brought up by users, such as the intrusive, pesky notifications brought on by the User Account Control, its pedestrian startup and shutdown times, and its memory usage. Win7 also introduces several new features and new versions of old programs, such as Paint, WordPad, Calculator, System Restore, and Windows Firewall.

Faster, Stronger Windows OS

Several areas of Windows have been tweaked in Win7 to increase its speed and reliability. Also, according to Microsoft, application and device compatibility has been greatly improved. Win7 developers say that if it works on Vista, it should work on Win7.

Microsoft shaved time off the startup process by reducing the background activity and adding trigger-starting of system services. Trigger-starting means that system services will only start when they are needed, rather than booting at the startup. Not only will this boost startup time, but it also decreases the amount of RAM being used and increases performance. In fact, according to Microsoft, memory
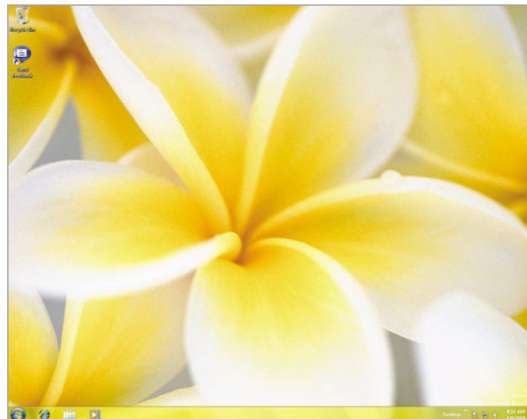
The Win7 Desktop is designed to have a clean appearance. Also, you can pick from colors and themes, as you can see with this yellow color theme.
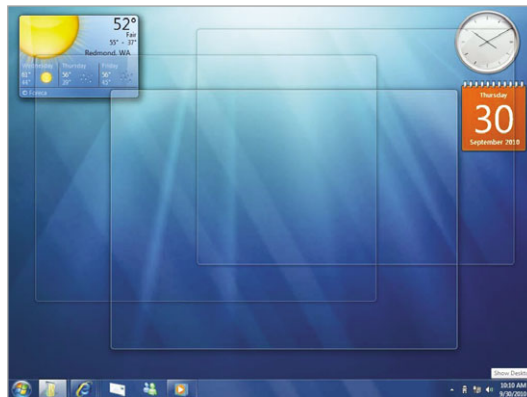
When you hover your mouse over the bottom-right corner of the Desktop, your open windows will become transparent so you can see the Desktop.

usage was reduced in hundreds of areas. Also, Win7 can read USB devices and copy files faster.

By reducing the memory usage, laptops that run Win7 will have longer battery life. Other new functionalities in Win7 will also help increase battery life, such as increasing the amount of time your processor is idle, power-saving DVD playback, Wake on LAN (wake your sleeping computer over a wireless network when you need to access it remotely), and adaptive display brightness (reduces display brightness when the computer has been idle for a certain amount of time).

Windows 7 also adds new reliability features, including Process Reflection. Process Reflection can clone the memory content of a process that has failed, which allows Windows to diagnose and analyze the failure while your application recovers and continues running.

New Look, New Feel

The Win7 interface is designed to be cleaner and more efficient. At the bottom of the Win7 Desktop, you'll find the new Taskbar, which is a row filled with thumbnails of the applications you use most often (it's customizable), in addition to open applications. It's similar to the Dock at the bottom of an Apple Mac OS. When you hover over the thumbnail, Windows shows you a mini picture of open applications.

When you have several application windows open, you can hover your mouse over the bottom-right corner of the Desktop, and all the windows become transparent so you can view files and gadgets on the Desktop. To minimize all the

When you hover your mouse over the minimized applications on your Taskbar, you get a fullscreen preview.

open windows, click the same area at the bottom-right corner of the Desktop. Additionally, if you have several windows open, and you just want to work with one application, you can click the window frame with your mouse and give it a good shake. That will automatically minimize all the other windows open on your Desktop.

One of the more notable additions to Win7 is its gesture control. With a monitor that supports touch capabilities, you can utilize the touch controls and multitouch features. Multitouch gestures let you zoom in, rotate, and manage photos and files with a pinch and twist of your fingers.

When it comes to organizing files and documents, Win7 has added new features to Windows Explorer that let you organize files by categories such as author, subject, date created, file type, and storage location or other properties. Libraries takes organization to another level. It provides a single place to access your files, even when those files are stored in different places, such as in multiple folders, on separate drives, or on other PCs in your home network.

Jump Lists are also new to Win7 and help you quickly and efficiently find files and applications. Each program on the Start menu and Windows Taskbar has a Jump List, which includes both frequently used files and applications and those most recently used.

Win7 brings home networking to a whole new level of efficiency and functionality. HomeGroups, which are new to Win7, allow you to more easily connect multiple computers in your home for file sharing. You can use files just as if they were on the computer you are using. This enables families or households with more than one computer to quickly share libraries, printers, and more.

Do More With Devices & Multimedia

Many people have other devices, such as a cell phone, digital music player, digital camera, and printer, that connect to their computer. With the Devices And Printers screen, you can access and manage all of those devices from one place, whether they connect wirelessly or via USB port, Bluetooth, or some other means of connection.

Device Stage is a new feature that helps you transfer and manage files from devices such as your phone, digital music player, and camera. Media Sync, PIM (Personal Information

Management) Sync, and Ringtone Editor are all part of Device Stage.

Win7 also adds new features to Windows Media Player and Windows Media Center, such as the ability to watch recorded TV shows on different computers with HomeGroup. Windows Media Player includes support for additional media formats, and the Lightweight Playback mode adjusts the size of the screen and the user interface based on the type of media you are playing. The new Play-To feature lets you choose which device you want to hear your music on, such as a digital media player or a different connected device. With most media devices, your music will be automatically transcoded into the format your media receiver can recognize.

Waiting On Win7

There's much more you can do with Win7 than the big-ticket items touched on in this article. For example, Internet Explorer has been revamped and designed to be quicker and easier to use, and Win7 is deeply integrated with Windows Live services. Services that were once standalone programs, such as Windows Photo Gallery, are now linked to Windows Live Web services. So, Windows Photo Gallery in Vista will be Windows Live Photo Gallery.

While nothing has been locked in, it sounds like Win7's system requirements will be only a small step up from Vista's. The system requirements listed for the Win7 public beta include a 1GHz processor, 1GB of RAM, and 16GB of free hard drive space. Microsoft says it's likely Win7 will officially be released in early 2010. ▌▌
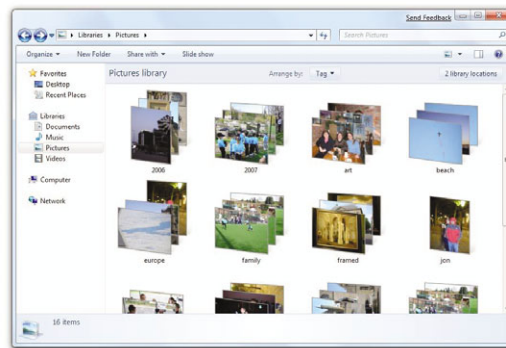
Libraries help you organize your files and documents, and you can share them with other computers in your HomeGroup.

BY TESSA WARNER BRENEMAN
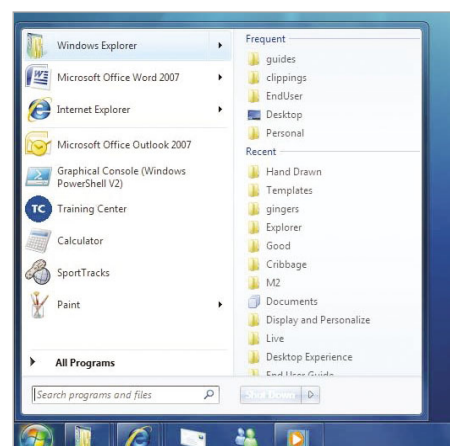
Jump Lists help you find frequently and recently used files quickly.

Expand Your Entertainment Options

Save Money With TiVo

The TiVo HD DVR can do many things your cable provider's set-top box can't. It might even save you money.

S ure, instant entertainment gratification is great, but these days, lots of people are looking for ways to cut back. Eating out less is a given, but what about that cable or satellite subscription? We can feel you recoil from here. Nobody wants to give up his TV programming. But what if you could get a different—and often better—TV experience for less money?

Let's Assume . . .

If you can live without TV, by all means, don't let us talk you out of it. And if you can live with the handful of local digital channels available over the air, grab an antenna and go that route. (Depending on your TV, you may need an analog-to-digital converter box.) OTA (over-the-air) broadcasting was, is, and shows every sign of staying totally free.

The reality, though, is that 98% of us would rather bathe in bleach than give up all of our programming access. We want a broad content selection available all of the time. For example, in Portland, Ore., basic cable from a local service provider—meaning just your local stations piped over the coax line—costs only $7.28 per month. That's no digital, no DVR (digital video recorder), and no HD (high-definition) programming. Just basic local channels. Very few subscribers opt for this.

The provider's next step costs $57.99 per month and includes 80 channels, 45 music channels, and a library of on-demand titles. Adding another 20 or so channels bumps you to $74.94 per month. If you want the movie channels (HBO, Showtime, Starz, etc.) added in, the next package will set you back $125.99 per month. This is without HD or a recording set-top box (known as a DVR). Including these must-haves requires another plan and tacks on another $13.95 each month.

Most providers do offer discounts if you bundle services, such as combining TV with Internet and phone access, but the bottom line is that getting HD service and having an HD-ready DVR to make that programming manageable is going to cost plenty—and that's without any premium sports, movie, or second language extras, nor does it include taxes. Other options, including satellite service and Verizon's FiOS (Fiber Optic Service) TV, cost a bit less than our aforementioned example, but they're in the same ballpark.

Over-The-Air Broadcasts

When it comes to HD broadcasts, many viewers profess that digital OTA looks superior to cable or satellite because OTA HD is uncompressed. This isn't quite accurate because the bandwidth of truly raw, uncompressed video is massive. OTA HD is, let's say, lightly compressed. (Generally speaking, the more you compress video, the more it will impact the vibrancy and clarity of the image.) Subscription providers get the same broadcast feed from networks, but they have additional concerns. There's only so much bandwidth available in a cable, fiber, or satellite feed, and providers are under pressure to offer ever more channels, particularly in HD. So, they often apply more compression to their video streams in order to make room. Each provider is free to apply as much additional compression on top of the original content stream as it wants.

How much OTA programming you'll find in HD depends on your area and the time of day. Major networks tend to broadcast their HD content during prime time. In our test location outside of Portland, Ore., our TV tuner could scan 37 OTA stations, most of them at viewable signal strengths. To find out how many stations are near you, go to www.titantv.com and input your ZIP code. Of the 27 stations TitanTV reported available in our area, six are HD and affiliated with major networks—ABC, CBS, NBC, PBS, and FOX.

The one critical ingredient for satisfactory OTA reception is a decent antenna. For instance, we use a Philips PHDTV1 ($24.99 on Amazon.com).
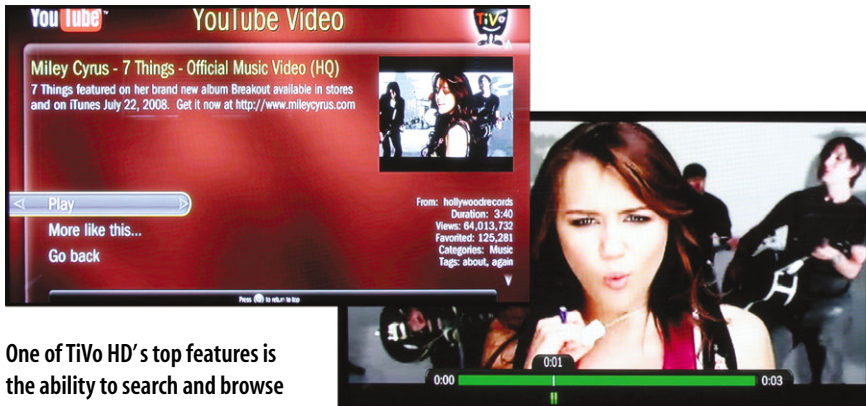
One of TiVo HD's top features is the ability to search and browse the seemingly infinite collection of videos on YouTube, including new releases from top-name artists.

If you're less than 20 miles from the broadcast towers, an indoor antenna such as the PHDTV1 works fine. Most of our primary OTA stations tested at 90% reception strength or better after a little trial and error. Some people with less reception strength will need outdoor antennas mounted on rooftops. For more information, we suggest reading up at Antenna-Web.org.

Today's TiVo Alternative

If you're going to combine OTA access with a DVR, your options are limited. There's the complexity of a home-theater PC outfitted with Windows Media Center (or a similar alternative). Or, you can opt for TiVo (www.tivo.com), a much simpler optimized solution.

The core TiVo DVR has remained largely unchanged over the years. The set-top downloads show guide data, you find something to watch (either in the present or future), and you press the remote's Record button to save the show to the DVR's internal hard drive. Specifically, we're interested in the TiVo HD DVR ($299.99). This unit features a large hard drive able to save up to 180 hours of SD (standard-definition) or 20 hours of HD programming.

The TiVo HD features two Cable-CARD slots, so you can keep any existing TV service on the new set-top device. However, we're discussing OTA tuning, and the TiVo has only one coaxial antenna port. You can watch a show already saved on the hard drive while recording a different show, but you can't watch one live program while recording a different program.

Anyway, who needs TV when you can view YouTube through the TiVo? The TiVo Search tool lets you scour YouTube's millions of videos, or you can browse the sprawling video archive. If YouTube doesn't satisfy, try Netflix Watch Instantly (www.netflix.com). As much as we focus on TiVo here, Netflix and its Watch Instantly service is an almost equal part of our downsizing strategy. At last check, Netflix had over 12,000 movie titles in its Watch Instantly fleet, dwarfing the on-demand movie options from many cable providers. As long as your TiVo has a high-speed LAN (local-area network) connection, either via Ethernet or the TiVo Wireless G USB Network Adapter ($59.99), it can access and pull from Netflix's Watch Instantly catalog.

All it takes to access Watch Instantly is the most basic $8.99 per month one-DVD-at-a-time Netflix subscription. This means that you can check out one DVD (Blu-ray costs slightly more) for as long as you want at any given time, plus you have unlimited Watch Instantly access. Watch Instantly can be viewed on your PC, TiVo HD, Xbox 360, Roku player, or any other Netflix-compatible device. You use a PC to log in to your Netflix account, add titles you want (if they're available in Watch Instantly), and about 10 seconds later, the title will show up on your compatible device in your Watch Instantly queue. To our eyes, Watch Instantly over Ethernet looks very much like DVD playback.

With Netflix and a busy schedule, we find that a one- or two-DVD-at-a-time plan is sufficient for nearly all of our movie enjoyment needs. Every once in a while, there will be a new release that you just can't wait a day or two for, and that's where Amazon Video On Demand (www.amazon.com/gp/video/ontv/start)

TiVo isn't your only option. The Roku Digital Video Player can also stream videos from Netflix and Amazon Video On Demand.

comes in. (As with Netflix, Amazon Video On Demand is available for the TiVo, Roku, and other compatible devices.) Most newly released movies can be rented for $3.99; TV episodes cost $1.99.

Moreover, like the regular service providers, TiVo provides untold hours of regularly updated free video content from more than 75 partners, including Beauty TV, Entertainment Weekly, ExerciseTV, Independent Comedy Network, The National Geographic Channel, and *The New York Times*. Additionally, loads of music content is available for streaming and download. This doesn't even touch on some of TiVo's other benefits, such as being able to stream music, photos, and video from your PC over the LAN and to your TV.

TiVo requires a subscription to its service, through which you get the on-screen guide, searchable access to YouTube, Netflix access, and everything else we've mentioned. Currently, a month-to-month plan costs $12.95. One year costs $129, or $10.75 per month, while a lifetime subscription costs a flat fee of $399.

For Real

We wouldn't be so quick to advocate the TiVo/Netflix approach if we hadn't tried it ourselves. Three months ago, we canceled HBO and every other premium channel through our cable subscription. For the last month, our

Need more recording capacity? Multiply your options with an external drive, such as Western Digital's My DVR Expander eSATA.

primary entertainment has been through TiVo HD, OTA HD channels, Netflix, and—would you believe it—a little more old-fashioned book reading. We haven't missed any of the premium services a bit.

Let's say you, like us, are in love with HD and DVR capabilities. You've been paying a cable provider $110 per month for HD DVR service with a midlevel movie package. That's $1,320 per year. Now, let's say you switch over

to a $299 TiVo HD DVR, grab our Philips OTA antenna for about $25, subscribe to the one-year TiVo service for $129, and do the Netflix single movie deal for approximately $9 per month. That's $561 for the first year. The second year (minus the one-time cost of the antenna and the TiVo device) will drop to $237. In two years, assuming no rates change on either side, you will have saved $1,842—over $150 per month. And in the real world, you'll have sacrificed almost none of your entertainment. Think you'll miss your favorite HBO or Showtime series? Wait a few weeks, and Netflix will have it.

This approach is a guideline, not gospel. There are other possibilities. For example, you could look into the Roku Digital Video Player ($99; www.roku.com), which doesn't include DVR capabilities but is a conduit for your on-demand Netflix and Amazon video services. You could also build a decent Media Center PC with dual TV tuners for under $600. Neither of these options requires a monthly subscription as TiVo does.

Don't let your budget be crippled by old habits. It's a new world with new technologies and new ways to enjoy media. Explore what you can do, expand your entertainment, and save some money in the process. ▌▌

BY WILLIAM VAN WINKLE

Expand Your Vault

Great as the TiVo HD DVR is, 20 hours of high-def recording disappears pretty quickly, especially if you hop away for vacation. We tried out Western Digital's My DVR Expander eSATA ($199.99; www.wdc.com), a 1TB (terabyte) external drive able to add an extra 120 hours of HD (or up to 600 hours of SD) recording capacity.

Installation is a snap. After you boot the TiVo HD with the WD drive plugged into the set-top's eSATA (external Serial Advanced Technology Attachment) port, TiVo will tell you it recognizes the new drive and is ready to set it up. You give your approval to start the setup, and TiVo warns you that the DVR won't operate unless the device is connected and powered on;

then setup proceeds, and you've got a much larger storage capacity. TiVo HD recognizes the external drive and incorporates it as part of the existing storage volume. There's no second drive to navigate and no confusion over which drive you've recorded to. You have the exact same experience as before the upgrade, only now you can store more content.

The TiVo HD XL DVR sports a 1TB internal drive but costs $599.99, while the TiVo HD plus 1TB WD My DVR Expander eSATA gives you more storage and costs $100 less. Moreover, if you ever need that external drive somewhere else, you can always reformat and repurpose it, although this will require a wiping of all your TiVo's existing recordings. ▌

Secure Your Mobile Device

How Vulnerable Is It?

Mobile hacking has been snagging headlines since 2005, when digital ne'er-do-wells obtained Paris Hilton's T-Mobile Sidekick Address Book. More recently, President Obama's BlackBerry surfaced as a potential national security threat. In the interim (and, in fact, since the first mobile viruses popped up in 2004), various security experts have been forecasting doom and destruction for mobile users who are not adequately circumspect and protected.

Now, with online banking and payment systems becoming increasingly common, the trickle of dire warnings is becoming more of a stream. In December 2008, online credit card marketplace CreditCards.com echoed the suppositions of many in an article titled "9 Predictions For Credit Cards In 2009." Prediction No. 9 is: Payments Get More And More Mobile, As Do Thieves.

Will these predictions come to pass? What types of information can you safely store on your mobile device, and how can you protect it? Are mobile banking and payments activities you should avoid? To find out, come along with us as we examine the shifting mobile landscape and compare and contrast the opinions of several experts.

A Fertile Environment

More mobile devices are becoming task-capable and connected, and statistics show that users are taking advantage of those abilities. Internet tracking firm comScore reported in March 2009 that mobile Internet usage in the United States increased dramatically between January 2008 and January 2009. The company found that 63.2 million U.S. mobile users accessed news and information on their devices

in January 2009. Of those, 22.4 million did so on a daily basis—an increase of 107% from one year prior.

Furthermore, the information users store on their mobile devices is becoming increasingly sensitive. In March 2009, data encryption and security firm Credant Technologies published a report about mobile device user habits. According to a survey of 600 commuters at London railway stations, 80% of users store information, such as birthdays, anniversaries, and pets' names, that could help data thieves usurp their identities. The survey found that 16% of users store bank account information on their phones, 24% store PINs and passwords there, and

AT&T's secure mobile banking solutions support some of the largest institutions in the country with more on the way. Shown is PNC's Mobile Banking interface.

10% maintain credit card data on their devices.

Of those surveyed, 99% reported performing some type of business task with their phones. Among these were storing business names and other contact data (77%), sending and receiving business email (35%), storing customer information (23%), and downloading corporate files (17%). In addition, 40% did not password-protect their data or use any form of encryption.

On the financial side, mobile banking and payment systems are becoming more common. John Devlin, a market research analyst with IMS Research, estimates that there were between 150 million and 180 million users of mobile "wallet" services (which includes mobile banking, payments, and other financial transactions) globally at the end of 2008. Informa Telecoms & Media forecasts that in 2013, close to 300 billion mobile phone transactions (worth more than $860 billion) will be conducted globally.

U.S. mobile users to date have been less enthusiastic, with many of them citing security risks. An April 2009 survey by accounting firm

KPMG found that only 9% of U.S. users had tried mobile banking, and 95% of those surveyed said they had never made an Internet purchase using a mobile phone. Of the total, 48% cited security concerns as the source of resistance.

However, that attitude may also be changing. Nineteen percent of respondents say they are "somewhat likely" to try mobile banking in the next 12 months. In fact, consulting firm TowerGroup predicts 20 million U.S. users will employ mobile banking by 2010.

A Developing Marketplace

Members of the Mobile Marketing Association, a consortium of handheld device manufacturers, carriers, and operators; agencies; advertisers; and others, are hoping that carriers and financial firms can make mobile financial transactions safe—and that they can convince users of that fact. In January 2009, the MMA released its North American Mobile Banking Overview, which addresses mobile banking channels, including SMS (Short Message Service), mobile Web, and mobile client applications, and then digs into the situation regarding both security and threats.

In the overview, some of the potential risks listed for consumers and banks are device cloning (where the user's data and access capabilities are copied to another device); virtual hijacking (where an attacker takes control of communication between two entities); malicious code, such as a virus or worm that is loaded onto the handset; malware at the system or network level; phishing (tricking the user via an email into disclosing sensitive information at a bogus Web site or downloading malware); and "man-in-the-middle" schemes, where the attacker intercepts and/or alters data traveling between two parties.
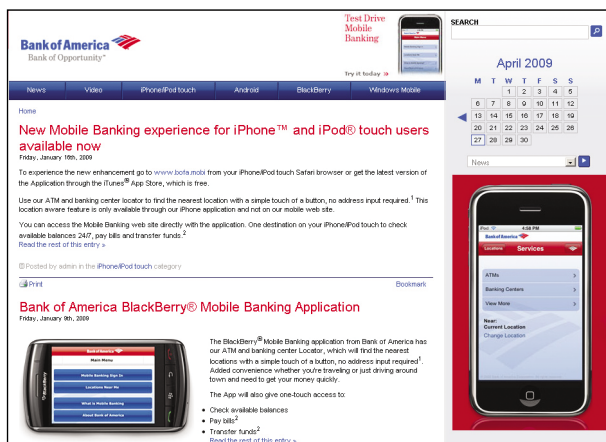
Recently launched, here is a look at Bank of America's Mobile Banking Center.

The paper also discusses means by which carriers and financial institutions can secure data and transactions. These include complex encryption schemes, use of hybrid SMS-Web technologies with secure access, and adding virus and Trojan detection software at various layers of the network. The report even suggests that, in some cases, measures such as phone-based authentication may be beneficial.

On the plus side, the overview notes that the user authentication methods used with GSM (Global System for Mobile Communications; the base technology used by AT&T and T-Mobile) and the spread spectrum (multiple radio frequency) transmission method employed by CDMA (Code Division Multiple Access; the base technology used by Verizon and Sprint) both offer inherent security potential.

Carriers and banking institutions are leading the way in securing mobile banking and financial transactions.

F-Secure's Mobile Security offers malware protection, firewall, and remote antitheft features for mobile phones.

AT&T (www.attwireless.com) and Verizon (www.verizon wireless.com) offer secure mobile banking solutions, and Bank of America recently launched a mobile banking solutions site (mobilebank ing.bankofamerica.com). Check with your carrier or banking institution to see what your options are.

Open & Unprepared

Precisely because the landscape is evolving rapidly, there is dissention and uncertainty regarding mobile security and users' potential for being hacked. Many security experts and analysts are asserting that mobile data protection isn't just a function of device security. It's an issue of user awareness and caution. "You have the mobile phone; you have your computer; you have USB and Bluetooth. So there [may be] more communication between the devices," says Daryl Schoolar, In-Stat's senior analyst for Wireless Broadband. "You are taking this personal data and entering it or replicating it across a chain of devices or networks. It's like driving a car. The more often and farther you drive it, the greater the chances you will be in a wreck."

While Schoolar asserts, "There is more likelihood of being robbed at the mall or having your identity stolen than having your mobile data hacked," he agrees that "the closer your phone is to being a computer, the more you have to take security precautions like those you take with your PC."

Mobile security firm SMobile's CTO, Dan Hoffman, takes an even more stringent viewpoint. "As the browsers on these phones have become more powerful, it opens up the devices to exploitation. If you look at 'patch Tuesday' from Microsoft, most of the PC patches are Internet browser-based. Add to that the fact that users are swapping microSD cards and downloading

and sharing applications, and you have a perfect storm of opportunity," he says.

Hoffman also says that malware can play a critical role in facilitating data hacking and identity theft. "There is a great video that has made its way around the Internet—about a girl's phone that got infected with spyware," says Hoffman. "The person could intercept email and SMS messages, listen in on voice conversations, and remotely activate the device's microphone to listen to conversations taking place in the room where the device was located.

"People are expecting the threats to be loud and obvious, like they were around 2000 with PCs . . . but now, they are stealthier and financially motivated. The goal is to reside on the mobile phone and do things undetected, much like rootkit viruses on a PC." (Rootkit viruses reside at the system level of a PC and exert administrative control, making them hard to detect.)

Hoffman says mobiles stand in stark contrast to PCs because so few users have installed protection on their devices. He notes that in the PC world, installed malware prevention systems and their reporting mechanisms help track the spread of threats as they hit the digital doorstep.

"Ninety percent of mobile users have no antivirus software, so they have no hope of finding malware, says Hoffman. "With customers that have our spyware installed, we are finding malicious software every day. As an industry, we don't know how serious this is."

Stay Safe

Whether the threat is as bad as Hoffman asserts is a source of debate right now, but both Schoolar and Hoffman say that users are responsible for taking measures to protect themselves. Depending on your risk tolerance, proclivity for storing sensitive data, and how careful you are if you go online, these protective measures could be as basic as using the password-protected access offered on most phones or as involved as purchasing security

10 Most Significant Mobile Malware Threats

Panda Security (www.pandasecurity.com) reports that as of April 2009, there were 152 malware threats targeting mobile devices. The top 10 at press time are shown in the chart below. ▮

Threat Name	Affected Platforms	Threat level	First Appeared	Threat Type
FlexiSpy.B	Symbian	Medium	July 4, 2008	Trojan
Multidropper.L	Symbian	Medium	March 5, 2008	Trojan
QQSend.A	Symbian	Medium	March 5, 2008	Worm
SmsFwd.A	Symbian	Medium	March 5, 2008	Worm
Kiazha.A	Symbian	Medium	March 5, 2008	Trojan
InfoJack	Windows CE	Medium	Feb. 28, 2007	Spyware
Killav.HQ	Symbian	Medium	Feb. 12, 2008	Trojan
Wesber.A	J2ME	Medium	Jan. 23, 2008	Trojan
Smarm.A	J2ME	Medium	Jan. 23, 2008	Trojan
Beselo.B	Symbian	Medium	Jan. 23, 2008	Trojan

software. Some respected companies that produce mobile security suites include SMobile Systems (secure.smobilesystems.com), Symantec (Norton Smartphone Security; www.symantec.com), and F-Secure (Mobile Security; www.f-secure.com).

"Mobile users should exercise some common sense," says Schoolar. "If a Web site or email message wants you to download something, Google the site or Google the name of the file to see if it is

In addition to antivirus, SMobile's Security Shield offers antispam and firewall protection; remote lock, wipe, backup, and restore capabilities; and optional parental control.

safe." He also suggests vigilance when choosing Wi-Fi connection locations. "With Wi-Fi, not only are you vulnerable with the site you are going to, you are more vulnerable to other people seeing the device and getting into it."

Hoffman says users should be cautious at social networking sites (many of which have already been shown to be vulnerable). He also recommends remote lock-and-wipe software or services to protect against direct theft. "Mobile devices are ultraportable, and the number of units lost or stolen each year is astronomical. Two million smartphones were stolen in the U.S alone in 2008," he says. He warns parents to consider what their teens are doing with their mobile devices, as well. "The average teenager sends more than 1,700 text messages a month, and they can now visit Web sites and perform searches on their mobile devices just like they can at any PC," he says.

As a final caution, if you recycle mobile devices that you no longer use, don't forget to wipe them first. Mobile recycler Regenersis recently announced that 99% of 2,000 recycled devices it sampled still had personal data on them. ▮▮

BY JENNIFER FARWELL

Many of our readers come across fast, easy ways to solve a problem or accomplish a task. Well, we'd like to hear about it! If you have a great tip you'd like to share, email us at readerstips@smart computing.com. If we print your tip, we'll send you a free *Smart Computing* T-shirt. You'll be the envy of all (well, some) of your friends.

Please include your first name, last name, and address so that we can give you credit if we print your tip. (And so that we can send your T-shirt to you, of course.) Please limit your tip to 200 words or fewer. Not all tips received will be printed, and tips may be edited for length and clarity.

Short & Simple Tips To Make Things Easier

Windows Vista Time-Saver

Have a setting, such as the power options on your PC, that you regularly change in Vista and want to go through fewer steps? Locate the setting you want, right-click the path in the Address Bar, and choose Copy Address. Then, go to the Desktop, right-click again (in an open area), and choose Paste Shortcut. Now you have an icon on the Desktop that eliminates the hassle.

Odean H., Coon Rapids, Minn.

Create & Remember A Complicated Password

Password security fails when passwords are written down where others may see them, but good passwords are complicated ones—they are also the hardest ones to remember. However, these two mental tricks will help improve your recall and also allow you to keep notes that serve as a last resort to remember your password. An old standby is to create your password from the first letters of the words of a sentence. For instance, the password "psY2md" is from the phrase "please say YES to me dear." The way that you write it down on the cue card, which you could keep in your wallet, is simply "yes dear."

John L., Roanoke, Va.

Back Up Your Outlook Files

There was an article in the February 2009 issue of *Smart Computing* about backing up Outlook .PST files. Microsoft offers a free backup add-in titled Personal Folders Backup to automate the backup of the entire PST (Personal Storage Table) file. I have been using it with no problems. Go to www .microsoft.com/down loads, search for Personal Folders Backup, and download and install the utility. I have it back up my .PST files once a day and save that file to a different hard drive, which is then backed up automatically to another hard drive for safety.

David R., Auburn, Wash.

Vista Laptop Folder Fix

I just bought my first laptop with Windows Vista. When setting it up, I noticed an annoying action when placing the mouse cursor over a folder and lightly touching the mouse pad. The folder would open. After checking out the mouse controls, I noticed there was a tapping setting causing the problem. To disable, right-click the Desktop, click Personalize, select Mouse Pointers, and click the Device Settings tab. Click Settings, double-click Tapping, remove the check mark next to Enable Tapping, and click Apply. (*NOTE: Mouse Pointers settings may vary slightly from one notebook to another.*)

Jim R., Orland Park, Ill.

Another Use For An External Hard Drive

At last count, I have 35 different Web sites I access that require a username and password, with no way to remember all of them. For a while, I kept a list of names and passwords filed in My Documents. I also considered a program that stores all of them, so when I access a site, it would automatically insert the proper information. A computer tech pointed out that if a hacker managed to access my computer, he would have all of the information available to him.

Now, I have an external hard drive that I use to back up all my data, and unless I am updating some data, it is turned off. I have my list of usernames and passwords stored there and nothing on my desktop hard drive. If I am accessing one of my seldom used Web sites and can't remember the login information, I just switch on the external drive, retrieve the information, and turn the external drive back off.

Bill M., Vancouver, Wash.

Don't get mad, get **SmartPeople** (800) 368-8304 webhelp@smartcomputing.com

Drop It In The Box

One of the reasons many people love Macs is because of their clean, user-friendly interface and high functionality. Dropbox (www.getdropbox.com) is an application created in the true spirit of the Mac—it's extremely simple to configure and use, and it's a powerful tool for backing up and syncing data.

In a nutshell, Dropbox is an online storage and backup program that also helps you sync data across multiple computers. More importantly, (and the reason I'm covering it in a Mac column), is that it works seamlessly across Mac, PC, and Linux platforms.

Say you have a PC at work, and at home you have your beloved Mac laptop, as well as a PC for the kids to mess with. With a free client installed on each machine, you can use Dropbox to share files between all of them.

What You Need

I know, I know. As soon as someone starts yammering about synchronization, terms that may come to mind include "complicated," "rife with compatibility issues," and so on. But this application is so simple to use, you just want to kiss it.

All you need to do to set this up is create a free account at www.getdropbox.com and download and install the Dropbox client on each computer you want to sync. The client is simple and quick to install; just select which version you need for a specific computer (Mac, PC, or Linux), download it, and install it. Installation requires just a few clicks through a setup wizard, and you're ready to go.

Back It Up & Get It Back

At any time, from any computer, you can access and download (or upload, for that matter) your files at Dropbox's Web site through a Web browser. However, from any of the computers with the client installed, you can just drag and drop files and folders from the My Dropbox folder. Assuming you're connected to the Internet, Dropbox will then automatically add those files to your online account and sync the updates to all of your computers with the client installed.

It's really that simple: Drag and drop to upload files. Drag and drop to retrieve them.

Jeepers! Nice Features

With a free account, you get 2GB of online storage—not exactly a lot of space to stash your entire MP3 library, to be sure, but you can still store a great deal of photos, documents, and other files.
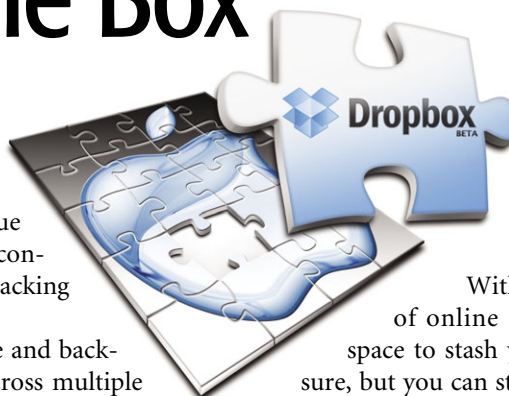
If you're willing to pony up $9.99 per month (or $99 per year), you can upgrade to 50GB of online storage. In terms of capacity, that's akin to the size of many computer hard drives, especially considering that the hard drive capacity on your computer is partially gobbled up by the operating system and all your applications.

Also consider that if you're working on a project, it's a huge benefit to have access to a document that is safely tucked away in online storage rather than being toted around on a flash drive or external hard drive where the hardware could become damaged, corrupted, or lost. Further, you can say goodbye to emailing documents to yourself in the form of attachments. (Ahh . . . what a relief!)

A bonus for iPhone users is the ability to view your files and account history and create folders right on your iPhone. However, you can't upload or download files, but hopefully the developers will add that functionality soon. You can log in with your iPhone at www.getdropbox.com/iphone/login.
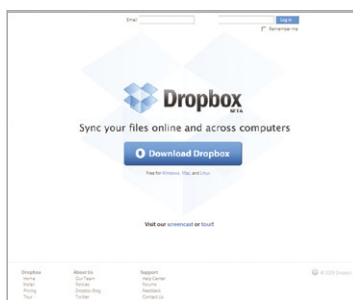
Think of Dropbox's Web site (www.getdropbox.com) and its product as elegant and simple rather than plain.

Bringing Macs & PCs together

Let's be honest: As fanatical as many Mac fans are, many of us have multiple computers in our households or at work, and not all of them are necessarily Macs. And as far as compatibility between applications and data between platforms has come, it's not yet perfect.

Dropbox provides a way for you to add some extra storage for your data and also provides a way for you to manage and sync it regardless of which of your computers you're using. For that matter, it enables you to retrieve or upload files with just a Web browser, so you're virtually never without access to your data.

(For the record: I resisted the urge to title this month's column "'N Sync." You're welcome.) ‖

Mac 101

Connect To A Wireless Network

One of the best benefits of a laptop is the convenience of accessing the Internet anywhere in your home. A functioning wireless home network will let you enjoy the Internet whether you're lounging on the sofa in the living room while checking your email or catching up on your favorite TV episodes playing on Hulu (www.hulu.com) as you relax in the sunroom.

Although we won't be walking through a wireless home network setup (visit the Networking & Communications section of our Tech Support Center [www.smartcomputing.com /techsupport] for more information on setting up a network), you will need to ensure that you have the right networking hardware to support a wireless connection for your Mac. If you already have a network-ready wireless router, then you don't need to bother with this step. However, if you've recently purchased a Mac notebook and don't own a Wi-Fi base station (router) that's connected to your DSL or cable modem, then you have the option to choose from the many Mac-compatible routers available.

Apple (www.apple.com) offers three types of wireless routers designed specifically to support Apple laptops: AirPort Express ($99), AirPort Extreme ($179), and Time Capsule ($299). AirPort Express is ideal for any residence with limited space, such as an apartment, small home, or dorm room. It plugs directly into the wall and supports up to 10 wireless users. AirPort Extreme is the next step up and is recommended for large homes, primarily because it has four Gigabit Ethernet ports (AirPort Express has a single 10/100BASE-T port) for an extended home network. Time Capsule will expand your wireless home network and also back up the data on Mac OS X Leopard. Both AirPort Extreme and Time Capsule will wirelessly connect up to 50 users. Also, all models of portable Macs—MacBook, MacBook Pro, MacBook Air—feature built-in AirPort Extreme Wi-Fi connectivity. Additionally, the wireless routers from Apple are compatible with PCs.

Activating & Using AirPort

Accessing a wireless network connection on a Mac doesn't require more steps than it would on a Windows laptop; however, it's likely that you will navigate to some unfamiliar menus if you're just getting used to a Mac. Instead of going to Connect To in Vista's Start menu and selecting one of the available wireless network options, you'll locate available wireless networks by using the menu bar that spans the top of the display.

In the upper-right corner of the menu bar, find the AirPort icon, which resembles radar waves growing larger in a cone shape. AirPort's signal strength is indicated by how many solid black lines appear on the icon; more light gray lines indicate a weaker wireless signal. By default, AirPort should be on, and when you click the icon, it will immediately search for available wireless networks and scan for service. If AirPort is off for any reason, no lines will appear on the icon. To turn AirPort back on, select Turn AirPort On after tapping the icon again.
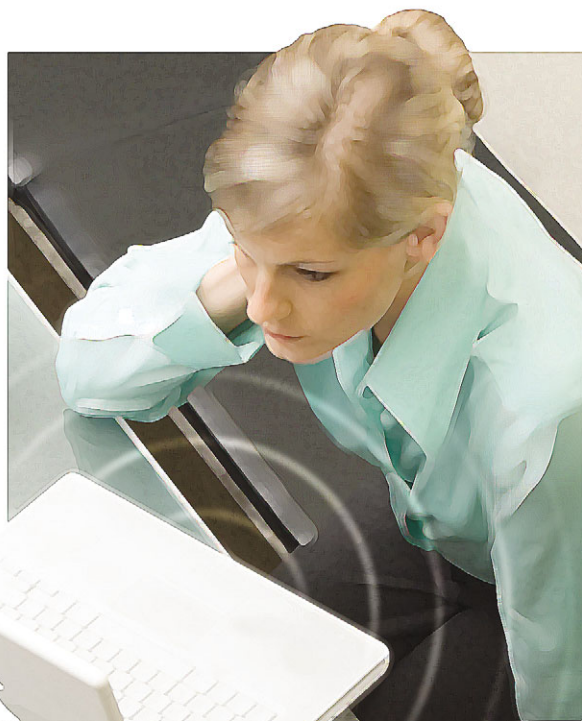
In some cases, the AirPort icon may not be visible at all. To correct this, click the Apple icon in the upper-left corner of the menu bar and choose System Preferences. Under Internet & Network, click Network. You can also access this menu by selecting Open Network Preferences from the dropdown menu on the AirPort icon. Choose AirPort in the list of Internet connection options (you may also see Ethernet and Bluetooth). At the bottom of the window, you'll see a checkbox labeled Show AirPort Status

In Menu Bar: Click the box if it is empty. Close the Network window.

When you click the AirPort icon this time, you can view a list of all the available wireless networks nearby. Some may be encrypted, so if you click one of these networks, you'll be prompted to enter the security password. A lock symbol will appear next to the name of an encrypted network. An open or free Wi-Fi connection will list the name only. Select the network to which you'd like to connect. If the AirPort icon shows all black lines, then you know you have a reliable connection.

Going Public

Working remotely on your MacBook gives you a lot of flexibility in terms of workspace location. The at-

Always be cautious about which network you connect to in a public setting. It's possible that a spammer or hacker has set up what is called an evil twin or a rogue Wi-Fi Access point to steal sensitive data from Internet users. There's a simple solution to avoiding this security threat: Ask for the network name and password at the service counter.

Although public establishments should provide a strong and consistent network connection, there may be "dead spots" in the building that will slow down your Web surfing. Sometimes a wireless signal is blocked by the interior architecture such as walls or metal doors or even weakened by the long distance from the source of the network (a wireless router). If you come across one of these areas, you can first attempt to refresh your wireless

quickly clicking through Web pages one second and then receive an error message the next second. However, there are some steps you can take to correct your wireless Internet connection. Before you attempt any of the following procedures, it's smart to reset your wireless router so that you know your network is operating properly.

If you find that you're having frequent connection problems in your home, you may want to reposition your wireless router in a more central location inside your home. Additionally, you can move the router off the floor or away from obstructions such as walls and metal objects, as we mentioned earlier. Another option is to add a repeater; this accessory can boost your wireless network signal without too much added hassle. If your MacBook or MacBook Pro isn't
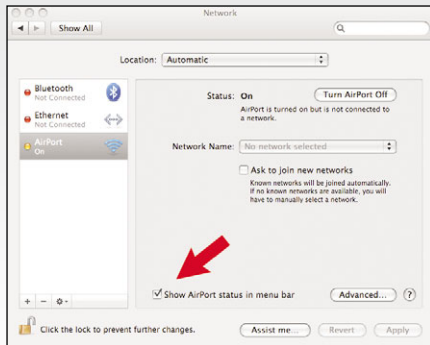
When the AirPort icon does not appear in the menu bar at the top of your display, click the Apple icon in the upper-left corner of the menu bar. Next, click System Preferences; then, select Network. Finally, choose AirPort and check Show AirPort Status In Menu Bar. Click Apply.
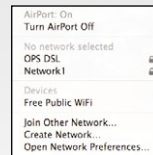
All of the available wireless networks in your area will be listed in the AirPort drop-down menu.
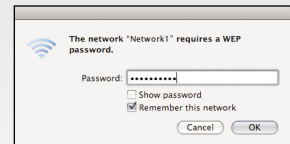
To enter an encryption password for a particular wireless network, click the name of the network, enter the appropriate characters, and select OK.

mosphere of a coffee shop, library, or casual study spot can be a good change of pace from the kitchen table or home office. As mobile computing grows in popularity, you can expect that numerous businesses, service-based shops, libraries, and more will provide free or paid wireless connections.

In order to utilize public hotspots, you'll need to choose the wireless network that's assigned to the shop you're sitting in. Don't attempt to log on to a network that is not associated with that business—you may be accessing someone else's Wi-Fi connection without that party knowing.

connection altogether by turning AirPort off (click the AirPort icon and choose Turn AirPort Off) and then turning it back on. However, this may only be a formality if you're truly stuck in a spot that's paralyzed your wireless capabilities. If this is the case, you'll need to move your MacBook to an area that's better suited to receive a signal. Or, you can simply move closer to the router if you know where it is located.

Troubleshooting Tips

Wireless Internet connections are inconsistent at times. You could be

detecting a wireless signal, it might be useful to check for any software updates from Apple.

Get Connected

While the Mac OS may look quite dissimilar to Windows XP or Vista, your experience with computing will probably make navigating a Mac easier than you think. Now, grab your MacBook and get comfortable in your home for some enjoyable Internet surfing. ▐▌

BY JOANNA SAFFORD

Compiled by Kris Glaser
Illustrated by Lori Garris

Find It Online
Browse Your Way To Better Health

Gyminee
www.gyminee.com

Signing up for this site gives you tools to help you meet your diet and exercise goals. From the My Locker Room dashboard, you can track your weight, nutrition, and workouts; set goals; make journal entries; and record your overall progress. Click the Workouts tab at the top of the page to find a workout program or create your own. You can invite your friends to be your GymBuddies and challenge one another to meet your health goals. Once you become a member, you can upgrade your account to the Gyminee Pro version for an annual fee of $45, which offers additional tracking and statistics features and bonus workout programs. While you're logged in, simply click the Try An Annual Pro Account link found above the Gyminee logo.

LiveStrong
www.livestrong.com

This site, co-founded by professional cyclist Lance Armstrong, is a great resource for those looking for ways to live healthier lives. Whether you're looking for ways to reduce stress, become more active, or eat better, this site is full of free information and tools to get you started. Use the tabs at the top of the page to browse subjects such as Diet & Nutrition, Appearance, and Balance. The Dares section challenges you to change your lifestyle by creating and succeeding in a goal every day.

EatingWell
www.eatingwell.com

This site will help you make your diet healthier. Click the Recipes tab at the top of the page to browse highlighted recipes or use the Search bar to find a specific dish. The Health section offers tips for healthy cooking and features the latest food-related news. In the Health section, you'll also find a Nutrient Library that outlines what foods your body needs most, why they're important, and how much you should be eating. The Shop section features additional cookbooks for purchase, as well as cooking utensils and appliances.
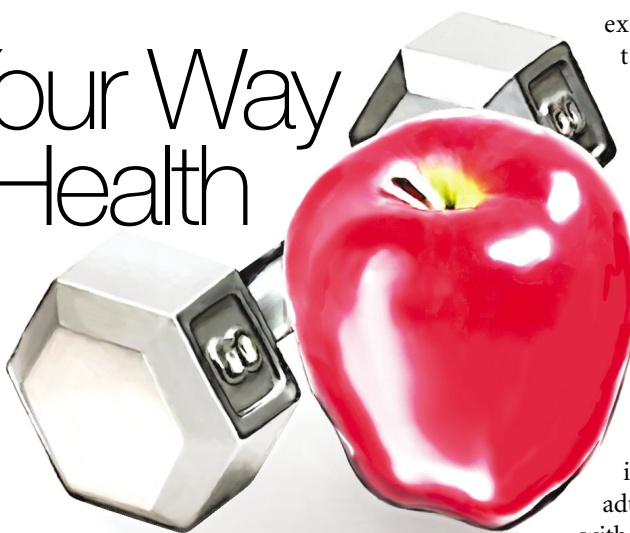
KidsHealth
www.kidshealth.org

The Kids portion of the KidsHealth Web site is perfect for teaching younger members of your family how to eat and live healthy. Kids can browse many topics, including Staying Safe, Feelings, and Staying Healthy. Click How The Body Works at the top of the main page to learn about the human body through movies, quizzes, articles, and activities such as a word find. The Kids' Dictionary of Medical Words, found on the left menu, can help kids learn more about illnesses and health conditions.

NIHSeniorHealth
www.nihseniorhealth.gov

This site features health and wellness information especially for seniors. Search for information about a particular topic by clicking a letter of the alphabet on the main page or choose from one of the listed categories. For example, the E section features helpful information about eating well as you get older and offers exercising tips for older adults. From the main page, you can click Exercise Stories and read about the progress other seniors are making with their health goals. There is also a Health Videos section full of useful information and inspiring stories about older adults who are happily coping with tough health concerns.

Centers For Disease Control And Prevention
www.cdc.gov

One of the best ways to live a healthy life is to be educated. This site offers a limitless amount of information about preventing illness by adding healthy activities to your schedule. On the main page, click the Healthy Living section to browse topics about aging, nutrition, sleep, and more. This site also features sections called Emergency Preparedness & Response, Environmental Health, and Workplace Safety & Health. The Injury, Violence & Safety section offers statistics and treatment information for various injuries and situations.

Pets For The Environment
www.petsfortheenvironment.org

It's important to discover ways for your pet to live a healthier life, too. This site, written by a pooch named Eddie, features various pet health topics and offers tips and advice on making your pet's life as toxin- and chemical-free as possible. Start by reading Eddie's Healthy Pet Tips under the Take Action section. Eddie's Blog highlights other health issues such as treat-shopping tips. When you're finished learning how to make your pet's life healthier, add a picture of your best friend to Eddie's Wall Of Cute, also found in the Take Action section.

That's News To You

Finding the appropriate online group to match your interests can be a monumental task. So each month, we scour the Internet to bring you the friendliest forums and most interesting bloggers the Web has to offer. This month, check out the hard work of one woman vowing to live healthier and learn how to make scrumptious (but healthy) treats.

Healthy Indulgences

www.healthyindulgences.blogspot.com
Eating good-for-you food doesn't mean you have to sacrifice taste or forego all your favorite treats. This blog features recipes for delicious-looking sweets that are gluten-free, sugar-free, and all-natural. The blog's creator personally bakes each recipe and includes directions and photos of each treat.

Love To Eat, Hate To Exercise

www.lovetoeathatetoexercise.blogspot.com
The road to healthier living can sometimes be long, but as this blog's creator shows, perseverance harvests results. The posts on this blog share the successes of a personal journey to lose weight and live healthy. You'll find lots of advice, tips, and recipes, as well as an inspiring atmosphere that might just give you the motivation you need to start living healthy.

Share The Wares

Some of the best apples in the online orchard are the free (or free to try) programs available for download. Each month, we feature highlights from our pickings. This month, we check out a program that can help you manage your diet and exercise habits.

Nutrinote
www.nutrinote.com
If you're looking for a better way to organize and manage your diet and exercise routines, this software might just do the trick. Start by creating your own personal food diary and setting specific goals, such as weight loss or gain, weight maintenance, or simply eating healthier. Keep track of the foods you eat and what types of nutrients they offer. A pie chart shows

Work your way to better health by using Nutrinote software to monitor your food intake and exercise activities.
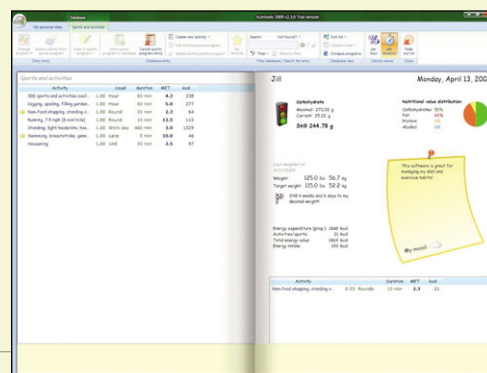
you the percentages of carbohydrates, fats, and protein you consume. If you're concerned about a particular food type, such as carbs or fat, you can set a stoplight that alerts you when you've gone over a limit that you choose.

A healthy living plan isn't complete without exercise. In addition to monitoring your food intake, you can also manage your physical activities, from sports such as swimming or running to daily activities such as vacuuming or gardening. For an even more specific log of your diet and exercise habits, you can write notes in your food diary and record your mood. And with the ability to add multiple profiles, you and your family members can grow healthier together.

To download the free trial, visit the site and choose Download Free Trial at the top of the page. The next page explains that you can download the Nutrinote software to your hard drive or to a USB flash drive so you can take your food diary with you wherever you go. Click Download under the For Private Users box and save the file to your preferred location.

When the download completes, double-click the file to start the installation. If you want to buy the software, simply click the Buy Now option at the top of the home page, choose which edition you'd like ($39.95 for Standard and $49.95 for Premium), and follow the on-screen directions to place your order.
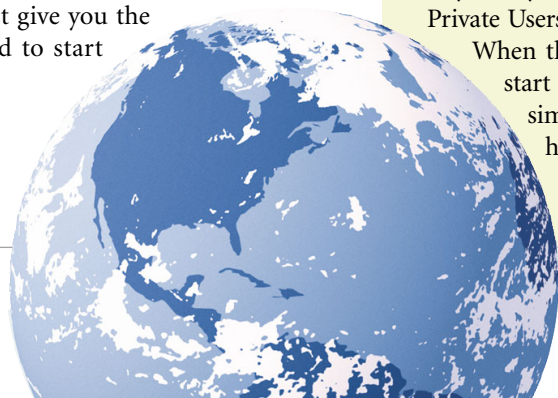
Google & Beyond

The Search Begins Here

When you want to find a Web site on the Internet, and you don't know the URL, where do you start? A search engine, of course. Most of us go straight to our Google Search bar and enter the words or phrases we remember. Then, Google produces hundreds of thousands of results in the form of Web links, images, news stories, videos, and more.

The concept of googling is so pervasive that we likely say "google it!" far more than "search for it." This attests to our reliance on fast and efficient search results. Google is undoubtedly a highly useful search resource, but we also have the luxury of utilizing many alternative search engines.

Some reorganize search results by grouping them into categories, while others are specialized according to the particular type of document or published work you would like to find. Regardless of what you want to find on the Web, there's a search engine that will guide you to relevant (and some interestingly irrelevant) results.

Cuil

www.cuil.com

Cuil is pronounced just as it appears: "cool." Introduced in July 2008, Cuil hasn't been around as long as other well-known search engines, but it launched with 124,426,951,803 searchable pages. Cuil's interface consists of a completely black home page featuring the Cuil Search bar in the center. It ranks search results according to content and relevance instead of popularity.

After you click Search, Cuil organizes All Results by including the name of the Web site, a short informational blurb, and a photo so you can quickly distinguish one URL from another. Additionally, you're allowed to explore by category, which means Cuil groups search results into interest-based collections. For instance, if you search "wireless Internet," the following categories should appear on the right side of the page: Wireless Networking, Broadband, Mobile Telephony, Mobile Telephony Standard, Wireless Communications, and so on.

Cuil offers only the single Web search function and has no option for searching maps, videos, or images. However, the tabbed search feature is handy if you want to switch to a related search inquiry (for example, "wireless Internet service" instead of "wireless Internet").

Ask.com

www.ask.com

Originally known as Ask Jeeves (established in 1996), this search engine was rebranded as Ask.com in 2005. Ask.com has search fields designated for images, news, maps and directions, TV listings, events, shopping, and so on in a similar fashion as Google. (You'll find these when you click About at the bottom of the main page and then click Site Features.)

AskCity converges search results for businesses, events, movies, maps, directions, and reviews in a single search result, so you can locate the nearest movie theater while you read reviews about cuisine you'd like to enjoy that evening.

Blog Search catalogs popular blogs and feeds and then filters out possible blog spam, so you can browse the blogosphere without coming across sketchy riffraff along the way. You can use the Ask Conversion Tool to quickly calculate and convert currencies, measurements, and temperatures. Weather Search and Stock Search are also available.

Katapulco

www.katapulco.com

Katapulco relies on the use of search-based keyboard shortcuts to help make your search queries more productive. When you type your search term, you will also add one or more of the 90 search engine shortcuts so you're able to rapidly seek out the results you need. Click Three Examples Of Improved Search Productivity to learn how few keystrokes Katapulco requires compared to other search engines.

On the main page, Katapulco lists 13 categories of search shortcuts such as Images, Movies, Reference, and Google Translation. For example, Blogs & News includes Google News (gn), Yahoo News (yn), Google Blog Search (gbs), and BlogPulse (bp).

Cuil organizes search results by interest-based categories.
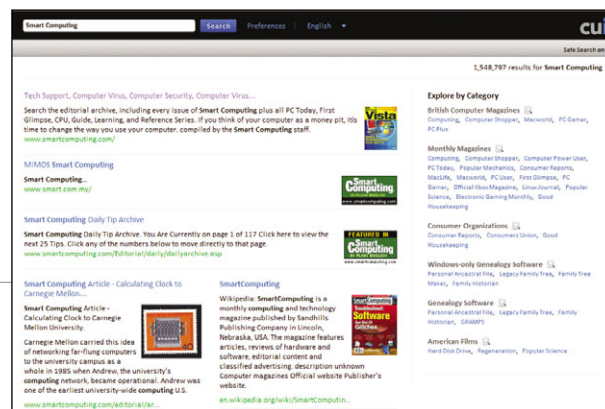
Let's say you would like to search for the movie "Twilight" for your grand-daughter, and you're interested to know which actors are in the movie, watch a clip, and check for DVD pricing online. You will enter the title of the movie in the primary search field and then press the TAB key. Next, enter the letters "i" (IMDB.com), "yt" (YouTube), and "z" (Amazon) with spaces between each group of letters and press ENTER. Katapulco retrieves the results and displays them in a tabbed format so you can click IMDb (Internet Movie Database), YouTube, and Amazon.com separately. What's more, Katapulco lets you add your URLs and create shortcuts for any site that you frequent by clicking the link under Personalized Sites.

Dogpile
www.dogpile.com

The idea behind Dogpile involves harnessing the search power of six search tools in order to provide the most comprehensive results. The official term for this method is "metasearch," meaning Dogpile combines the findings of Google, Yahoo!, Live Search, Ask.com, Kosmix, and Fandango to provide speedy results. Dogpile's tabbed search selection includes Images, Video, News, Yellow Pages, and White Pages.

If you are curious about the site's name, then Dogpile has done its job to pique your interest. The Dogpile Search & Rescue Program is seeking to raise 1 million dollars for pet charities by donating a portion of its revenue to saving pets. When you add Dogpile's toolbar to your browser, you are taking part in this humanitarian effort. In fact, Dogpile counts each penny earned on its home page.

Yahoo!
www.yahoo.com

Yahoo! search should be familiar to anyone with a Yahoo! account—the Web Search field is ever-present on Yahoo! service pages, such as Finance, OMG, Real Estate, and Shine. At the top of the main Yahoo! page, you can easily click the following search options: Web,

Something For Everyone

Here are a few more examples of some very alternative search engines. By searching for a subject within a limited topical engine, you'll likely be able to find videos, music, recipes, and event locations more quickly than sifting through a vast number of extraneous results.

TuneFind	www.tunefind.com	Search for songs you've heard on TV or in a movie.
Blinkx	www.blinkx.com	Includes 35 million hours of searchable Web videos.
Quotiki	www.quotiki.com	Find or share a clever quote in this social networking wiki.
Cookstr	www.cookstr.com	Search and browse recipes filtered by cost, skill level, time, method, diet, taste, and texture.
Tickex	www.tickex.com	Find and purchase tickets for concerts, sporting events, and theaters from numerous providers.
WhatsOpen	www.whatsopen.com	Search cities and neighborhoods for local businesses' hours of operation.

Images, Video, Local, and Shopping. When you click More and select All Search Services, you can choose from Yahoo!'s advanced search categories.

Although there isn't quite the selection offered in either Google or Ask.com, the resource list is useful, nonetheless. People Search is a helpful directory for locating individuals by address, phone number, and email on one search page. For anyone in search of a new occupation, Yahoo! Job Search keeps it simple: Type a keyword, select a city, choose a job category from the drop-down menu, and then click Search Jobs.

Additionally, downloading the Yahoo! Search toolbar for Internet Explorer or Firefox will give you convenient access to safe searching with the pop-up blocker feature.

Google Scholar
scholar.google.com

While many of the sources on the Web contain bits and pieces of relevant information, there remain some sites that are helpful to the seasoned researcher or curious explorer. Google Scholar is one such site. It aggregates

scholarly literature (academic papers, theses, books, etc., that originate from universities and education organizations) so you can conveniently identify the articles that are most applicable to your inquiry.

Google Scholar displays the author, date published, and word search results in the document for you, but you're allowed to modify your search preferences in Advanced Scholar Search. Additionally, Google Scholar will return search results in specific subjects depending on the number of topics you select in Scholar Preferences.

In beta stage at press time, Google Scholar welcomes suggestions or comments regarding the improvement and usability of the service.

Seek & You Shall Find

A search engine is a tool that Internet users utilize almost every day. To make the most of your daily search time, decide which engine will give you the results you really want. ∎

BY JOANNA SAFFORD

Need Tech Support? Be Prepared!

For some computer users, calling for technical support (with the exception of *Smart Computing* and Mr. Modem, of course) is slightly less enjoyable than having an anesthetic-free root canal. There are, however, a few things you can do prior to placing your call that will minimize and even eliminate that occasionally challenging experience.

Harkening back to my keyboard-deprived youth, I believe the Boy Scout motto, "Be Prepared," best captures the focus of this month's missive. Indeed, the better prepared you are, the less time you'll spend talking to a tech support representative.

As part of your precall preparation, be sure you're in a good mental place to make the call. If you're agitated, frustrated, or experiencing a karma-induced "payback day," don't even dial the number. Only initiate contact when you're relaxed, and you have quality time to devote to it.

When making your call, have several items at your fingertips: First, be sure to know what version of Windows you're using and how much RAM (memory) your system has. If you're not sure, simultaneously press the Windows Logo key and the PAUSE/BREAK key. You'll find memory in the Computer area (on the General tab) or System section, depending on the version of Windows you're using.

If you are seeking assistance for an error message, have the precise wording of the message available. It is not helpful to say that "some kind of error message came up." Avoid nonspecific phrases such as, "My computer just won't work," or "I'd like to throw this thing out the window." Remember, you're calling for assistance, not anger-management counseling. Also, make sure you're calling from a quiet area. A barking dog, a screaming baby, or the cat batting your mouse around is unlikely to facilitate meaningful troubleshooting.

Tell tech support if you can associate the onset of your problem with any computing event, such as the installation or removal of any hardware or software. Did you update anything (including Windows)? Did you make any changes to any settings? Don't keep repeating, "I didn't do anything," or "I've never had this happen before."

Be prepared to explain what you may have tried in an attempt to resolve the problem. Avoid saying, "I've tried everything." That type of phrase is so meaningless, it could cause your support representative's head to explode.

Speak slowly and distinctly. Keep in mind that while you may have been coping with a problem for a long time, the person you're speaking with is hearing about it for the first time. If the person you're interacting with talks too rapidly, politely request that he or she slow down.

Remember, too, in your enthusiastic zeal to disgorge as much information as you possibly can without drawing a breath, that your tech support person is listening carefully, attempting to absorb your every word. Keep your focus on the problem at hand rather than editorializing about the state of computing or your feelings about a given vendor or manufacturer. And speaking of speaking, while the tech support person is talking, don't start clicking away like you're getting paid per click. Wait until instructions have been completed, then begin.

One way to avoid miscommunication is to repeat whatever suggestions are offered. This is a process called "echoing." For example, if you're advised to click X and Y and then select Z, repeat, "Okay, I just clicked X. Now, I'm going to click Y," and so on. In that way, the person you're speaking with receives confirmation that you're correctly following the instructions provided and will know when you have completed the recommended fix.

Two things I always do when making a tech support call are obtain the first name of the person I'm speaking with and get a ticket or incident report number, in case I need to call back. Your tech support representative will memorialize the details of your call on an incident report, so if you require further assistance, the next person can review the notes and pick up where you left off.

If you do your homework before placing your call, the chances of what we in the biz refer to as "first-call resolution" increase exponentially. When that happens, it's good for the tech support service, but most importantly, you'll get your problem resolved as expeditiously as possible, with a minimal amount of frustration. Theoretically, anyway.

For purposes of full disclosure, independent studies conducted by researchers wearing white lab coats and carrying clipboards reveal that readers who contact *Smart Computing*'s Tech Support Center (www.smartcomputing.com/techsupport; 800/368-8304) and subscribers of my weekly computer-help newsletter (www.MrModem.com) unanimously describe the experience of receiving technical support as "a little slice of heaven." And that's what we like to hear. ▮
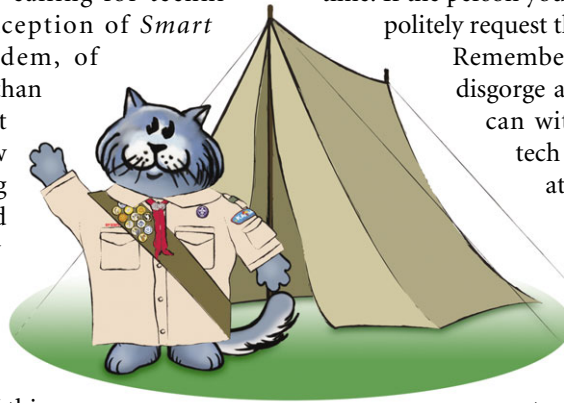
Mr. Modem (**Richard Sherman**) *is an author, syndicated columnist, radio host, and publisher. "Mr. Modem's Weekly Newsletter" provides personal responses to subscribers' computer and Internet questions, plus weekly computing tips, Web site recommendations, virus alerts, hoax warnings, and more. For additional information, visit* **www.MrModem.com.**

Find Solutions Today

There's nothing more frustrating than a computing problem . . . except maybe not knowing where to go to find answers. The next time your computer doesn't boot up or your printer won't print, search the Tech Support Center at Smart-Computing.com. Simply click any one of the Top Subjects links next to the search box or type in a search of your own. You'll find answers from our Solutions Knowledgebase and Basic Troubleshooting Articles sections, as well as results from our general editorial archive.

You can also find answers by browsing the Common Problems And Frequently Asked Questions area that provide helpful translations and easy-to-understand solutions to numerous computing problems. Simply log on to SmartComputing.com and find the answers you're looking for today!

1 Go to www.smartcomputing.com and then click the Tech Support Center link.

2 In the Enter A Subject To Search By box, enter your subject of choice and click Search.

3 Browse articles from various sections, including Solutions Knowledgebase, the Q&A Archive, and much more.

If you can't find an answer to your question, try posting your question on our reader-response Q&A Board. (Keep in mind that this feature is available only to paid subscribers.)

Smart Computing's Fun Site Of The Day

Serious Eats

Not as solemn at its name suggests, this site is a great place to go for recipes, reviews, and food insights and opinions. Sections of this site include Talk (a food forum), Recipes, Eating Out, Videos, and Columns. You're sure to find something to pique your interest (and appetite) here.

www.seriouseats.com

Photo Messages Popular In Summer

As temperatures rise, so do the number of photo messages sent via cell phones. According to comScore, in years past, photo messaging rates have been higher than average in July and August, when many people take summer vacations. It seems photo messages are taking the place of postcards.

Google It

The verb "google" may have been part of the public lexicon for much longer, but it officially became a word in July 2006 when Merriam-Webster put it on its pages. Also debuting as an official word that year were spyware and mouse potato.

Red, White, Or Blue?

In honor of the Fourth of July, we did a search on SmartComputing.com for the patriotic colors. "White" came in first with about 3,690 finds, "red" showed up about 3,570 times, and "blue" made 3,150 appearances.

The Art Of Troubleshooting

You've Got Trouble; We'll Help You Shoot It

Computers mean problems. Hey, we love 'em, and we can't imagine life without 'em, but they do indeed spell trouble.

Most of the time—we hope—your PC works just as it should. You keep in touch with friends and family, you manage your online bank accounts, you play games, you touch up your photos. Your seat in front of your computer is a place to learn, a place to work, and a place to play, all at the same time.

But just imagine if, at your place of business, there was a sign on the door telling you to go home because the office wasn't working that day. Picture the same scenario when your child or grandkid goes to school or when you carry your stadium seat and rain poncho to the most anticipated football game of the season. OK, so no one really sheds a tear when work or school is canceled for the day, but for a sports fan, being turned away from a bowl game would be on par with what the Griswold family felt when John Candy turned them away from Walley World in "National Lampoon's Vacation."

It's the same feeling when your laptop or desktop PC refuses to work. It's one thing to encounter errors that annoy you but don't derail your computing experience. It's quite another to suddenly have a system that won't print, launch programs, or even start up.

As ever, *Smart Computing* is here to help. We've dedicated the following eight (count 'em: eight!) articles to the problems that keep you from fully using your PC.

First, we'll guide you through the process of troubleshooting a PC that won't turn on when you press the Power button. This may be one of the scariest computer problems for most people, but it needn't be. Quite often, there's a simple solution. The trick is to determine what that is and to cross your fingers that the fix won't cost you anything.

Next, we dig into some common problems you may run into with peripherals. Some of these situations are every bit as stultifying as a "dead" PC because they keep you from using your computer at all. The article on page 58 delves into the frustrating experience of a monitor that remains blank. Despite the fact that your PC is working, a black display—usually accompanied by the monitor's power LED (light-emitting diode) turning orange instead of green, for example—means you're stuck with an unusable system until you can figure out a cure.

Beginning on page 60, we turn your attention to a related issue: an unresponsive keyboard and/or mouse. Whether it's a USB input device that just needs to be unplugged and replugged or a complete freeze with an immobile cursor, we'll try to put you back in control. Likewise, when your printer hangs, stubbornly thumbing its nose at the documents or photos you're trying to print, the tips on page 56 can help you make it behave.

Finally, we've devoted four articles to common problems with software. When someone asks you, "Did you get my email?" and a look of puzzlement steals across your face, it's time to read page 64. When you try to start up an application, and the hourglass cursor goes away without launching the program (Firefox is notorious for this lately), you're invited to check out page 62.

Sometimes a document won't open, whether you have the correct application for it or not. If this has happened to you, turn to page 68. And, the article on page 66 is there to help you when you've looked everywhere for an important file, but you just can't seem to find it.

And just in case our feature package articles don't contain a remedy for your PC's specific affliction, no worries. Our crack Tech Support service (800/368-8304, 8 a.m. to 8 p.m. Central Time, Monday through Friday) is standing by, just waiting to come to subscribers' rescue. There are also tens of thousands of articles available on SmartComputing.com, many of which offer additional insight into all kinds of PC problems. One way or another, we won't let you down. ∎

BY MARTY SEMS

Smart Computing's **Tech Support lets subscribers call in, send an email, or dig through our online resources to find an answer to their hardware or software problems.**

Your mouse might be blameless when it won't move your cursor—especially if your keyboard is unresponsive, too.

It's dead, Jim.

Your PC isn't resting, it isn't stunned, and it isn't pining for the fjords. It's not mostly dead; it's all dead.

You're pushing the Power button, and nothing is happening. No lights, no sound, no carnival of Technicolor fun on your Desktop. There's no Facebook in your immediate future. No Twitter. No Gmail and no YouTube. Your PC simply isn't working. At all.

Hey, take heart: At least the trouble is probably something simple. Either something is no longer connected properly, or something is broken. (Er, maybe the latter part isn't very comforting.)

Let's take a moment to make sure that you're on the right page. If you can hear your computer's fans and drives whirring, but you don't see any video on the monitor screen, turn to "What To Do When: Your Monitor Is Blank," on page 58. In this article, we're strictly interested only in PCs that are pushing up the daisies, metaphorically speaking.

Cheap Fixes

Fortunately, this type of problem isn't all that difficult to solve. The troubleshooting process is fairly linear. First, rule out simple but understandable mistakes. Next, look for something that isn't hooked up as it should be. Finally, if all evidence begins to point inexorably toward the conclusion that a bit of hardware has shuffled off this mortal coil, direct your efforts toward isolating and identifying the decedent.

But, first things first. Even the best motherboard (the largest printed circuit board in your PC) has quirks. Perhaps yours has developed a slight flutter (that's a highly technical term for "boo-boo" or "whoopsie").

If a broken part is to blame for your computer's silence, it's usually the power supply.

Try pushing the Power button again. If nothing continues to happen, as is nothing's occasional wont, push and hold the Power button down for a leisurely count of five seconds.

Still nothing? Shoot; we thought that would do it.

OK, OK. We're kidding. Reach behind your computer and make sure that the power cord isn't loose or disconnected. Sometimes cables and cords get kicked and stepped on under a computer desk, so a loose power cord isn't as far-fetched as you might think.

The part of your PC into which the AC power cable plugs is called the PSU (power supply unit). It's basically a transformer that turns AC (alternating current) into DC (direct current) at voltage levels your computer can use. When broken hardware is to blame for your PC doing absolutely nothing when you try to turn it on, the PSU is the prime suspect. But that's a matter for the next section in this article, "Not-So-Cheap Fixes." Here, we're more concerned with finding free or nearly free solutions to empowering your computer.

On the back of most PSUs, often near the power receptacle, there's an on/off switch. Flip it and then try starting your computer again in case the switch was

in the wrong position (hey, humor us). Next, leave the switch alone for 30 seconds or so and then toggle it back to the original position. If your motherboard has indeed picked up a flutter, perhaps the 30-second period without electricity will allow any residual charges to drain out of the capacitors. With the switch in the "on" position, try to start your PC once more.

If there's still nothing doing, spare another glance behind your PC or under your desk at your power strip/surge protector. When it's receiving power from the wall outlet, it probably has an LED (light-emitting diode) or switch lamp that lights up to tell you so. Sometimes a power strip can be unplugged, as can anything plugged into it. Pets and feet can also trip the rocker switch on a surge protector, shutting down power to everything connected to it.

Something else can shut down a surge suppressor, and that's an electrical surge. Lightning, load changes, and other anomalies can cause enough disruption on a power line to trip the surge protection cutoff on a power strip. Usually, if this happens, you'll see a brightly colored button sticking out unusually far or some other reset mechanism. In practice, you can press the button back in to reset the device, but don't continue to use a surge protector if there's any chance that it really did stop a lightning bolt or other power spike. It probably won't be able to do it again. Buy a new one.

Other things can happen upstream of the power strip. Sometimes wall outlets go bad after many years. Try plugging the strip into a different outlet (and your PC into a different outlet on the surge protector, for that matter). If lamps or appliances plugged into the same house current circuit don't work, either, check for a tripped circuit breaker or blown fuse in your home's power distribution panel.

If you've recently moved your desktop computer from one location to another, it's possible, although not terrifically likely, that an internal power cable has come loose. Make sure all power and data cables are tightly connected and that all expansion cards are fully seated in their slots. If your PSU is modular, meaning that it has detachable power leads, check both ends of its cables for snugness.

There's also a small two-wire cable from the case's front Power switch that connects to two pins on the motherboard. If this has popped loose, the front switch won't be hooked up to anything. You can slip the thin connector labeled POWER SW back into

It's cheap and easy to replace a damaged AC power cable, as they're standardized. Buy one with a thick cord.

First, check all power cables for good connections and make sure that your surge protector is on.

place, if you can ascertain where it goes. Consult your motherboard or computer manufacturer for a diagram of the front panel connections if you can't read the tiny print on the board itself.

Finally, if the last thing you did before your PC would no longer start was to install the motherboard, verify that you connected all the power cables the board requires. Also, if a new board has fewer than 10 mounting holes, double-check that there are no metal (and electrically conducting) spacers or stamped mounting standoffs under a part of the board without a hole. If there is, it could cause a short circuit. Unscrew the spacer or put two pieces of electrical tape over the stamping and then reinstall the motherboard. Loose screws can cause the same problem, so remove any you find.

Not-So-Cheap Fixes

Now, we'll get into some potentially expensive territory. If something's busted, you'll need a new one.

If you have a spare AC power cable, such as from a monitor or another PC, try it. Next, if you have an extra power supply, try running your PC with it. You don't need to physically install it in the case, but you do have to attach its power connectors to your motherboard, hard drive, and video card if necessary. An inexpensive power supply tester from an electronics store can give you a verdict, too.

If your PC boots with the spare PSU, or if the power supply tester indicates a problem, you'll need to replace the PSU in your case. You don't have to spend a ton, but you do want to buy a quality brand with a good reputation and the 80 PLUS logo for efficiency.

In rare cases, a problem in another device can cause your computer to play dead. The motherboard should be second on your list of suspects (behind the PSU), but an expansion card or the CPU itself could be to blame. Unless you have the spare parts on hand to try a mainboard or processor swap, it's a good idea to ask a repair shop or geeky friend to help you isolate the bad device.

Finding a broken part is cathartic. Not only will it let you avoid the shame of giving up, but it will also give you something to blame for your troubles, which somehow always makes adversity easier to bear. Plus, you'll get to buy a shiny new thingamabob, which probably will give you more power efficiency, speed, and/or other features than the last one. ▌▌

BY MARTY SEMS

YOUR PRINTER FREEZES

You were almost out the door when you realized what you forgot—to print out the boarding pass for your flight. After logging in, you checked in only to find that your printer wasn't working—dooming you to wait in line at an airport kiosk or for an airline agent to get your boarding pass. Troubleshooting an unresponsive printer may take anywhere from a few seconds (reconnecting a disconnected cable or adding more paper) to a couple of hours, depending on the issue. To help you rule out and fix possible issues, we'll provide step-by-step troubleshooting instructions.

Am I Missing Something?

Many recent printers include a power-saving mode that will automatically turn the printer off after a given period of time. Often, the printer will wake when you select the Print command in an application, but sometimes, you may need to turn on the printer. Look for signs that the printer is on, such as an illuminated LED (light-emitting diode) near or on the Power button. If no evidence of power is visible, press the Power button and listen for signs that the printer is on, such as

the printer pulling paper through its rollers or cleaning the print heads.

If the printer still doesn't appear to have power, check that the printer's power cable is plugged into both the printer and the wall outlet. Those using a power strip should double-check that the power strip is turned on and connected to the wall outlet. Assuming your printer uses a wired connection to your computer, you'll also want to ensure the printer's data cable is firmly connected on both ends because loose cables may prevent the printer from receiving the entire printout.

Once you're sure the printer is connected and has power, see if there are lights flashing on the body of the printer. Typically, a flashing light
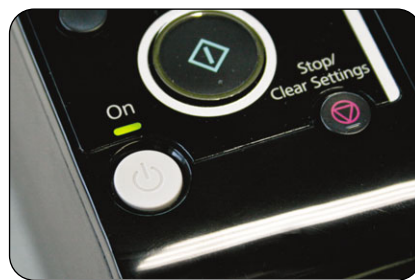
Begin by looking for signs that the printer has power and is turned on, such as an illuminated LED (light-emitting diode).

indicates the printer has encountered some type of error. Fortunately, the symbol next to the blinking light or the printer's users manual will indicate the problem. For example, many printers feature an "out of paper" or "paper jam" light to help you quickly determine why the printer isn't working. Check out the "Paper Problems" sidebar in this article to see how to remove a paper jam.

Smaller models, such as portable photo printers, may feature a single LED and use blink codes, so you'll need to watch the blink pattern and reference the users manual to figure out the printer problem. If you installed the utility program included with the printer, the program may also tell you what type of problem the printer encountered. For instance, many printer utilities—including software for most Epson, HP, and Canon printers—communicate with the printer to indicate the amount of ink left in the ink or toner cartridges.

Default Printer

If you install a new printer on your computer—even a virtual printer (such as Microsoft's XPS Document Writer or ActMask's PDF Virtual Printer)—Windows may change your default

printer to the newly installed option. To check your default printer in Windows Vista, click Start, Control Panel, and Printer (under Hardware And Sound). Right-click the icon for the printer you want to use and click Set As Default Printer. For Windows XP, click Start, choose Control Panel, click Printers And Other Hardware, and click Printers And Faxes. Right-click the model you prefer and select Set As Default Printer.

If you don't see your printer listed, you may need to reinstall the printer driver. To do so, you can use the software disc included with your printer, or you can visit the manufacturer's Web site, go to the Support section, and install an updated driver for your printer. Typically, you'll first need to connect the printer to your PC before installing the new printer driver.

Wireless Printers

If your printer communicates with your PC over a wireless network, start by checking if your PC can connect to the Internet, which will ensure the wireless router is communicating with your hardware. Assuming the PC's network connection is functional, you may need to use the printer's setup utility to reconfigure the printer with the router. You may also need to run the printer setup utility if you've recently reset or replaced your wireless router or access point.

Although each wireless configuration application will vary, it's likely you'll need to know your network's SSID (Service Set Identifier; the name of your network); wireless mode, such as Infrastructure or Ad Hoc; security mode, such as WEP (Wired Equivalency Privacy), WPA (Wi-Fi Protected Access),

or WPA2; and the network key. Similar to when you first set up the wireless printer, you may need to run an Ethernet cable to your router—or a USB cable from your computer—to configure the wireless connection. Once you successfully finish using the setup utility, you can unplug the cables and wirelessly print your documents and photos.

Time For Testing

One of the best ways to locate the trouble of your printing problem is to print a test page. If you open the printer's Properties, it typically features a Print Test Page button under the General tab. Barring a Print Test Page button, you can open a different application, such as a word processor, Web browser, or photo-editing application, and then select File and click Print.

If the printer starts working, the previous application may be configured to use a different printer than the one you set up in Windows. If the printer still doesn't respond, open the print queue dialog box by clicking the Printer icon that appears in Windows' System Tray (located in the bottom-right corner) to see if Windows can provide a more detailed reason for the problem. In some cases, you may find that a previous print job, such as a document whose job was paused, may be stuck in the queue ahead of your printout. Right-click the print job and select Cancel Print Job until your test print is at the top of the queue. If the

document fails to print, Windows should generate an error message, such as 'Windows Cannot Con-nect To The Printer,' that will help you determine the problem's cause.

If the test page won't print, it's likely your PC and printer cannot communicate with each other. Read your printer's manual and find out how to print a self-test page. Printers unable to print a self-test page may be broken, and you should contact the manufacturer (assuming you've gone through the other troubleshooting tasks in this article). For printers able to produce the self-test
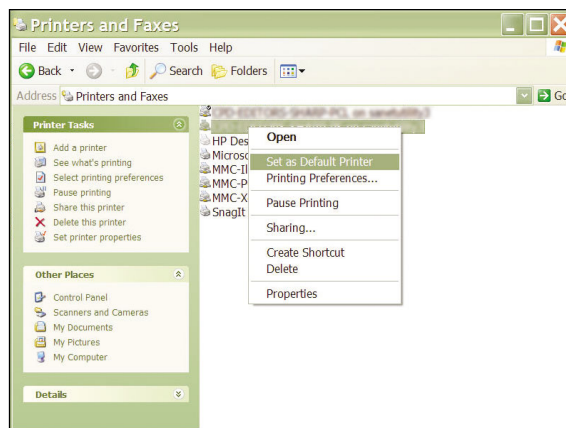
Make certain the printer you want to use is set as the default printer in Windows.

page, the printer likely has a corrupted or otherwise nonfunctional driver.

You'll want to open up Windows' Printer dialog box (open the Control Panel and click Printer in Vista or Printers And Faxes in WinXP), remove the printer by right-clicking the printer and selecting Delete, and then download and install the latest driver from the manufacturer to resolve the problem. ▌▌

BY NATHAN LAKE

PAPER PROBLEMS

To remove a paper jam, you'll typically need to open up the printer, but if you're lucky, the jammed paper may be accessible from the printer's paper exit tray. Most printers feature an illustration on the front or side of the printer that will show you how to open the printer, but the printer's users guide will likely give you a better idea of what you'll need to do. Once you open up the printer, you may need to remove the ink cartridges (for inkjet printers) or toner cartridge (for laser printers) to reach the paper stuck in the printer's rollers. Don't just tear the paper out of the printer because the torn pieces may cause the printer to jam again. It's best to gradually, carefully pull the paper out or slide the paper side to side until the page is free. ▌

YOUR MONITOR IS BLANK

No one likes to fly blind. But without a working monitor connected to your desktop PC, that's exactly what it feels like. If your monitor remains blank, but your PC works, there's no way for you to see where your mouse pointer is or what you're clicking. It's difficult to even shut Windows down the proper way if you can't see what you're doing. Whatever the cause, this problem keeps you from using your computer. Let's talk about ways to troubleshoot it.

Simple Fixes

Most monitors have an LED (light-emitting diode) near their Power button to indicate that they're receiving electricity. The LED on a working display that's properly showing video from a computer may appear green, blue, or another hue.

If the monitor has power but is receiving no video signal from the PC, most will indicate this by lighting the LED a different color, such as orange. Some also display a "no signal" message on-screen. Check to make sure that the video cable between your PC and the display is tightly connected and that none of its pin connectors are bent.

If your monitor's LED doesn't light up at all when you turn it on, try plugging the display into a different outlet. Next, try a different power cable, such as the one between your computer and your power strip. Verify that the power cable is snugly plugged in on both ends. If there are still no signs of life, you may have a defective display. Skip to the "Workaround" section at the end of this article.

Assuming the LED is lit, press the monitor's input select button, if it has one. This tells the display to show the video signal coming from another input. Many monitors search for a live signal automatically, but it doesn't hurt to be sure.

Next, press the monitor's button that brings up its on-screen settings
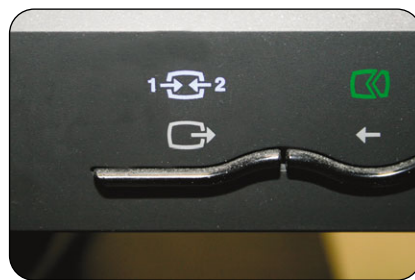
Many monitors have a video input selector switch. Try pressing it in case your display is "looking" at the wrong input.

panel, if applicable. If the monitor is working correctly, the on-screen settings should show up in all circumstances. A practical joker may have cast your monitor's brightness or contrast setting into utter darkness, so try raising these if they're near zero. It may be tricky to navigate the on-screen settings with your display's buttons, so check its users manual for assistance.

If you still don't have a picture, and your computer has a different graphics port on the motherboard (integrated graphics) or the video card, try plugging the video cable into it. No change? Move the cable back to its original connector. If you have another monitor handy, try connecting it to your video adapter and a power outlet.

If nothing has helped thus far, it's time to bite the bullet and reboot your PC. We don't normally recommend pressing the Reset or Power button on the front of your computer case to shut it down, but in this scenario, you have little choice. With some PCs, it only takes a restart to remind the graphics card to send out a video signal.

If rebooting doesn't fix the problem, shut down your PC and unplug it from the wall. Let it sit for 20 seconds and then plug it back in and press the Power button. This depletes any stored energy

in the motherboard's and video card's capacitors, which sometimes helps.

Note that if your PC stops during the boot process, and your monitor shows an error message about a lack of a power connection to your graphics card, shut the PC down. Open its side panel and make sure that there's a power line running from the PSU (power supply unit) to the video card. The card's power connector is usually along one edge and may have four, six, or eight pins. Try attaching a different power cable to the card, if you can.

A few powerful video cards require two power connectors. Fortunately, most retail graphics cards come with power adapters that may be compatible with your PSU. Try a different power cable or power supply if the problem persists.

BIOS Issues

Another thing that can affect the video signal to your display, or rather several other things, are to be found in your PC's BIOS (Basic Input/Output System) Setup. Reboot and then press DELETE, F1, F2, or the key indicated in your motherboard's users manual. If the BIOS settings don't appear on your screen, try again.

In the BIOS Setup, use the indicated keys on your keyboard to browse the menus. Look for a setting labeled "Primary Video Adapter" or similar. If you're using the motherboard's integrated graphics, change this setting accordingly. The same goes for a PCI-E (Peripheral Component Interconnect Express), AGP (Accelerated Graphics Port), or PCI card. Save your changes and exit the BIOS Setup using the indicated keys.

Several issues can cause your BIOS settings to revert to default values, which may affect the video output. A BIOS version update,
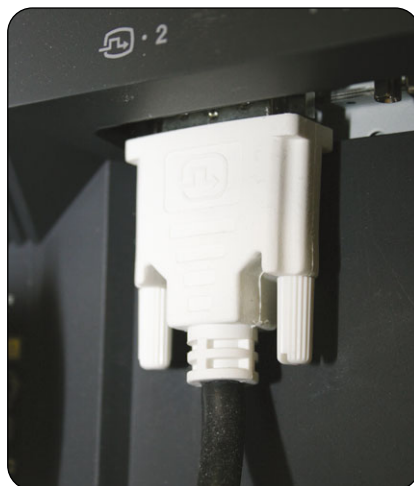
Make sure that your monitor's video cable is snugly plugged into it and your graphics card.

a change of the motherboard's battery, an overclocking failure, and a hard BIOS reset (usually involving removal of the battery and power cable, then the moving of a jumper to designated pins for a few seconds) can all cause settings to revert.

Video Card & Multi-Display Issues

If the last thing you did before your monitor went blank was install a new video card, replace the old one in your PC. Download the latest drivers for your specific video card and OS (operating system), but don't install them yet. Next, uninstall your existing graphics drivers, which are probably from Intel, Nvidia, or ATI, and then shut down your PC. Install the new card once again and hook up its video and power cables, if needed. Start your PC. If a low-res version of your Desktop appears, you're in luck. Install the new card's drivers, reboot, and then adjust its resolution in Windows' Display Settings by right-clicking a blank part of the Desktop and choosing Properties

If you add a second monitor, it may be blank until you enter Windows' Display settings to extend your Desktop to it.

(Windows XP) or Personalize (Windows Vista).

Some high-end cards may require more juice than your PSU can provide. Upgrade your power supply or exchange the graphics card for a lighter-duty model.

If you upgraded from integrated graphics to a card, read the "BIOS Issues" section on how to change the BIOS' video output settings.

Of course, the card itself might be bad. Some have obvious damage such as a burned smell or a black smudge. Others might have a fan that's not working or not connected to the card. Some video adapters simply need to be removed and reseated in the slot to correct a connection problem.

If you've connected a second monitor to your PC, it will probably be blank until you tell Windows to use it. Enter Display Properties as outlined previously. Under the Settings tab in WinXP or the Monitor tab in Vista, click the rectangle marked 2. Next, click Extend The Desktop Onto This Monitor (or similar) and then click Apply and OK. We suggest setting the resolution and color depth to your display's highest settings.

Workaround

If your monitor is no longer working, you may not have to rush out and buy a new one without adequate time to research models and compare prices.

If you have an HDTV (high-definition television), check it for a video input that is compatible with your graphics adapter. Nearly all HDTVs sold today have HDMI (High-Definition Multimedia Interface) ports, which can connect to most DVI (Digital Visual Interface) video card outputs with an inexpensive adapter. Your TV may also have DVI, VGA (Video Graphics Array), or S-Video (Separate-Video) inputs. If you choose to use your HDTV as a temporary monitor, enter Windows' Display Settings or your graphics driver's control panel to adjust the resolution and video settings for the best picture quality. ▌▌
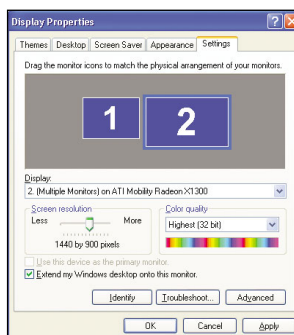
YOUR KEYBOARD OR MOUSE DOESN'T RESPOND

Your PC has lights, picture, and sound, but without a functional mouse or keyboard, the computer is little more than a noisy box. Frustrating? Of course it is, so we're here to help you troubleshoot your computer when the keyboard or mouse won't respond.

Check Your Connection

If your mouse or keyboard used to work, it's best to begin by ruling out the most likely problem—disconnection. Because we often move our mice or keyboards to make room on our desks, it's fairly common for the wired USB or PS/2 (Personal System/2) plug to detach from the port on the motherboard. With a USB device, you can unplug and reinsert the connector and see if your computer redetects it. With a peripheral that features a PS/2 plug (typically, mice offer a round green plug, while keyboards offer a round purple plug), you'll need to shut down the computer before you reconnect the device. Attaching a PS/2 plug while the computer is powered on may damage your motherboard, mouse, or keyboard. Additionally, a reboot is typically necessary for the computer to detect the newly reconnected PS/2 mouse or keyboard. When you insert the plug, evenly push it in until you're sure the plug is securely connected to the port.

Another common connection problem is a defective port. To test a USB port, attach the mouse or keyboard into a nearby free USB port. If the device works, connect a known good device, such as a USB flash drive, to the original port to see if it's really broken.

With a mouse or keyboard that uses a PS/2 connector, you'll want to turn the PC off before reinserting a dislodged plug into the port on the motherboard.

If the mouse or keyboard isn't detected on the second USB port, your mouse or keyboard may have a driver issue, or it may no longer work. Skip to the "Inspect Your Drivers" section for more information about how to check for a dysfunctional mouse or keyboard driver.

Defective PS/2 ports are a bit harder to troubleshoot because you may not have another PS/2 keyboard or mouse on hand. And unlike USB, it's doubtful a PS/2 mouse port will work with a PS/2 keyboard (and vice versa) because the PS/2 mouse and keyboard ports are programmed to look for a different set of communication protocols. If you don't have an old PS/2 mouse or keyboard on hand, ask a friend if you can borrow his to test your port. Similar to testing a USB port, if the second model works, a driver issue—or broken mouse or keyboard—is the likely culprit.

If your mouse is connected to a KVM (keyboard, video, mouse) switch or USB port, remove the third-party device and directly connect the mouse to its appropriate port. In the case of an unpowered USB hub, it may not be capable of supplying enough power to all the connected devices. If the mouse or keyboard works after you connect it to a USB port on the motherboard, it'd be best to switch the mouse or keyboard with another USB device that's not always in use.

Wireless Woes

Begin by checking the wireless receiver's connection to your PC. Next,

make sure the mouse or keyboard is receiving power by installing new (or recently charged) batteries. If the device connects to a recharging station, dock the mouse or keyboard for a few hours on its charger. Then, attempt to re-establish a connection between your wireless keyboard or mouse and the receiver connected to your PC. Typically, you'll need to simultaneously press the Connect button on both the receiver and input device to pair the two together. Check the users manual for information about the correct way to pair your wireless mouse or keyboard with the included receiver.

It's also possible that the wireless keyboard or mouse may be located out of the receiver's range. Many wireless input devices use an RF (radio frequency) signal or Bluetooth technology. RF signals in your home, such as your wireless network or cordless phone, can cause interference, and the farther away the keyboard or mouse is from the receiver, the more likely interference will occur. Place the keyboard or mouse near the receiver to eliminate the possibility of poor signal quality. Bluetooth connections won't suffer from signal interference issues, but the technology offers an effective range of around 20 feet, so make sure you're within that range.

Dirt & Spills

Electronics don't mix well with dust, crumbs, and liquids. Unfortunately, our input devices are often threatened by all three, especially if we snack or drink our morning coffee in front of the PC.

Of the three, liquids are the biggest threat, and keyboards are particularly susceptible because of the open spaces between the keys. If you do spill on your keyboard, you'll want to turn the keyboard over in one quick motion and leave it upside down to let the liquid drain away from the keys. Although shaking the keyboard seems like a natural solution, it's likely you'll further spread the troublesome liquid over the keyboard's interior. We

recommend letting the keyboard sit for a few days in a cool dry place before using it again. Follow the same advice if you spill water on your mouse.

Dirt, dust, and crumbs are a different story. Accumulate enough material in one spot on a keyboard or mouse, and the buttons may no longer function. When cleaning a keyboard, you can dislodge a surprising amount of dirt by turning over the keyboard and giving it a few good shakes. However, it's best to use a can of compressed air to blow the debris out from underneath the keys. Mice are less susceptible to debris, but with an optical or laser mouse, you may need to remove dirt blocking the mouse's lens.

Typically, you'll need to press the Connect button on both the device and receiver to pair your wireless mouse or keyboard.

If keys are stuck or no longer function on your keyboard, use a can of compressed air to force debris out from underneath the keys.

Inspect Your Drivers

Some mice and keyboards require special software and drivers to operate. However, if you don't have a second mouse or keyboard lying around, checking for a driver conflict can be difficult because you can't easily navigate to Windows' Device Manager.

To open Device Manager without a mouse, press the Windows logo key to bring up the Start menu. In Windows Vista, use the arrow keys to select Control Panel and then press ENTER. Press TAB until you reach System And Maintenance and press ENTER. Arrow down to Device Manager and press ENTER. Press TAB and the Down arrow key until you reach the Mice And Other Pointing Devices icon. Press the Right arrow key to see your mouse listed. A yellow triangle with a black exclamation point indicates the keyboard has a problem. In Windows XP, use the arrow keys to select Control Panel and press ENTER. Press the TAB key to highlight Performance And Maintenance and press ENTER. Press TAB to reach the System icon and press ENTER. Use the arrow keys to highlight the Hardware tab. Press the TAB key to select Device Manager and press ENTER. Hold down the TAB and Down arrow key until you reach the Mouse icon. Press the Right arrow key to display the installed mouse. WinXP will display a yellow circle with a black exclamation point if there's a driver conflict.

If your mouse has a driver problem, you'll want to uninstall it (press the SHIFT and F10 keys; then, arrow down to Uninstall and press ENTER) and borrow a mouse from a friend, so you'll have a pointing device to reinstall the mouse's proprietary software. Those with an unresponsive keyboard can follow the steps above, but it'll be easier because you can use the mouse to open the Control Panel and access Device Manager.

Out Of Options

If the mouse or keyboard is still unresponsive, the input device is likely broken. On the plus side, you can purchase a replacement mouse or keyboard for less than $20. And if your broken input device was more than two years old, the new one may offer new features and improved functionality. ∎

BY NATHAN LAKE

AN APPLICATION WON'T START

Few operations are as simple as launching an application in Windows. Just find the shortcut, double-click it, and you're off. Unless, of course, you double-click and nothing happens. Whether you've just installed a program and it won't run or you're having trouble with an existing application that ran fine in the past, there are a variety of quick fixes to get things running again.

Check The Task Manager & System Tray

Sometimes, it appears a program didn't launch even though it did. This is common for programs designed to run in the background, which often have icons in the System Tray (located on the bottom-right side of the screen). If you double-click and it seems like nothing happened, place the mouse cursor over the icons in the System Tray to see if any of them match up with the program you just launched. If you find the icon and want to access the program's interface screen, double-click the icon to see if that opens the window; if that doesn't work, right-click the icon and see if a menu option appears that lets you open the program. Some System Tray programs don't have interfaces at all,

so even though they're running, you have no direct control over them.

If you don't see anything in the System Tray, simultaneously press CTRL-ALT-DELETE and select Task Manager (you need to click Start Task Manager in Windows Vista). When the Task Manager appears, click the Processes tab. If the program you double-clicked appears in this list, then it's running, but there may have been a problem that prevented its interface window from appearing. Right-click the entry for the program, click End Process, and try double-clicking the program's icon again to see if that makes it run properly. If not, try the procedures described in the "Patch It" and "Uninstall/Reinstall" sections in this article to see if those help.

Patch It

Programs often rely on Windows files to work properly, and if either the program or Windows are out of sync due to outdated or missing files, a program may refuse to run. You should always keep Windows patched via Windows Update. In WinXP and Vista, click Start, click All Programs, click Windows Update, and follow the

prompts. You likely must reboot the computer after the patching process is complete (in some cases, the computer may reboot multiple times automatically to install everything), so be sure to save any open work before activating this feature.

You also should visit the software publisher's Web site to see if a patch is available for the program. Patches fix bugs and solve compatibility problems, and you should always read the patch installation instructions carefully because sometimes it is necessary to install a series of patches in the correct order instead of simply installing the latest patch.

Also check the box the software came in, its installation instructions, and the publisher's Web site for the program's system requirements. Double-check to make sure your computer meets or exceeds the minimum hardware requirements and to see if another program must be installed before the one you wish to use can work. For example, many programs require a Java engine or the latest version of Microsoft's .NET framework, so you'll need to follow the instructions included with the software (or provided at the Web site) to track down the other necessary components.

Check The Shortcut

If double-clicking a shortcut on your Desktop or in the All Programs menu doesn't work, right-click the shortcut and click Properties. Select the Shortcut tab, click Find Target in WinXP or Open File Location in Vista, and when the window opens, check to see which file is highlighted because that's the file that launches when the shortcut is clicked.

If the Find Target or Open File Location button doesn't appear or doesn't work when you click it, the shortcut is broken, and you need to create a new one. Navigate to the folder where the program you want to fix is stored by clicking Start, My Computer (Computer in Vista), double-clicking the icon for the drive where the program is installed, and finding it from there (often, programs are installed on the C: drive in the Program Files folder).

When you have the program's folder opened, find the file that is double-clicked to launch the software, right-click it, and click Create Shortcut. A shortcut icon (marked with an arrow) appears, and you can drag that onto the Desktop or wherever you prefer, rename it if you wish, and double-click it to launch the software.

Run As Administrator

Some Windows programs require certain privileges that you may not have if you are logged into a nonadministrator user account. In WinXP, you can right-click the problematic shortcut, click Run As, and select a different account on the machine that has the proper privileges to see if that gets the program going.

In Vista, even if you are logged into an administrator account with full privileges, full access to programs is not enabled by default. If you run into a program that won't start because it demands administrator access, right-click the shortcut, click Run As Administrator, and the program should work.

Reboot

If none of the previous steps work, particularly if you're trying to launch a program you just installed, reboot the computer. Sometimes, software relies on files that can only be installed when Windows is loading, and rebooting will make sure they are copied to the right places so the program can use them. Save all open work and close all running programs. In WinXP, click Start, click Turn Off Computer (or Shut Down), and select Restart. In Vista, click Start, hover the mouse pointer over the arrow in the bottom-right corner of the Start menu, and click Restart. Try the program again after the system reboots.
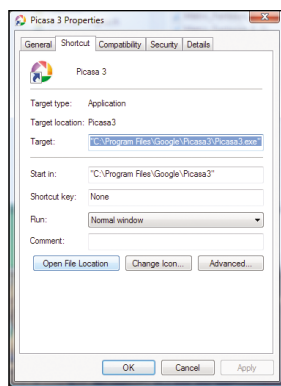
Repairing broken shortcuts is easy if you know where to look.

Use A Clean Slate

Sometimes, none of the methods discussed above works, which usually means there's some conflict preventing the software from opening. For example, you should only have one antivirus product installed on your computer, so if another is running when you try to install and open a second one, the second one often won't start at all. Save all open work, press CTRL-ALT-DELETE, and then click Task Manager (or Start Task Manager in Vista). Select the Applications tab, make sure nothing else is running (if there is an app running, right-click it and select End Task). Next, right-click all of the icons in your System Tray and exit them if possible before trying to launch the troublesome software again. If it works after doing this, you'll need to contact the software publisher or selectively disable programs one at a time to see what is causing the conflict and whether it is resolvable.
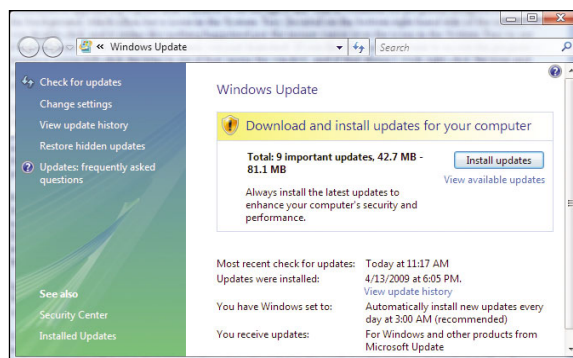
Keeping Windows and your programs up-to-date is important for avoiding launch failures.

Uninstall/Reinstall

If all else fails, uninstall the problematic software and reinstall it according to the publisher's instructions. To uninstall software in WinXP, click Start, Control Panel, Add Or Remove Programs, and wait for the list to populate. Click the entry for the program you want to uninstall, click Remove, and follow any prompts to get rid of it. In Vista, click Start, Control Panel, Uninstall A Program, and wait for the list to populate. Click the entry for the program you wish to remove, click Uninstall, and follow the prompts.

No matter what version of Windows you use, be sure to reboot the computer after uninstalling the software so all remnants of it are removed and no longer running in the computer's memory. Then, reinstall the software from scratch. Bear in mind that any user settings you established before uninstalling the software may have to be completely reconfigured, but that's a small price to pay to have software that actually works. ▮

BY TRACY BAKER

SOME EMAILS DON'T REACH YOUR INBOX

Email problems don't always manifest themselves with an error message, so if emails aren't reaching your inbox, you may not know about the problem until a friend asks if you read an email she sent you, and you don't recall ever seeing it. Inbox issues can be tricky because some emails may get through, while others may be blocked by your security software or email client. In this article, we'll help you make sure that all emails reach your inbox.

Identify The Source

Begin by determining if you are having trouble receiving email from everyone or just one contact. To do so, use a Webmail account, such as Hotmail (www.hotmail.com), Gmail (www.gmail.com), or Yahoo! Mail (mail.yahoo.com), to send an email to your suspect account. If you receive a "failure to deliver" notice or an undeliverable message from a **mailer-daemon** (software on a mail server that delivers messages to email recipients), the troubled account may be blocking the email from reaching your inbox. There are a number of possible reasons that an email may be rejected, including a full inbox, an attachment that's too large, an email filter that rejects certain types of email or specific domains, or a mail server malfunction. It's also possible that your antivirus program or firewall may blocking your email client or Web browser from receiving email.

If your test email is delivered to your inbox, have your friend resend her email to see if the problem was simply a server error. It's also a good idea to verify your email address with the sender so both of you know the email address is correct. The problem may be on the sender's end if she is the only contact having trouble.

If the email was sent with an attachment, the file may have been too large for your email client or inbox to accept. Most ISPs (Internet service providers) limit the size of your mailbox or account plan to a given amount of storage space, such as 2GB. Try removing some unwanted emails or ones with large attachments (save the attachment to your hard drive first) to free up some space. Additionally, some ISPs feature a per-message size restriction, and even though you have room in your mailbox, the attachment may be larger than your provider will allow.

In our research, we found that most ISPs allow email attachments (both sent and received) up to 10MB when you sign up for a broadband account. Web accounts also feature a per-message size limit. For example, with a free Hotmail account, the maximum size for an attachment is 10MB, and the size limit includes the message, attachment, and encoding needed to send the attachment. Hotmail also limits you to 50 attachments within one message. People with a free Gmail account can send and receive attachments up to 20MB.

Are You Set Up Correctly?

If you can't receive any email, you may need to re-enter the email server settings supplied by your ISP. To find your settings in Windows Vista, open Windows Mail, select the Tools menu, choose Accounts, and click Mail. In Windows XP's Outlook Express, select the Tools menu, choose Accounts, and click the Mail tab. Click the specific account you're having trouble loading and select Properties. Double-check that you have the correct information in the tabs for Servers, Connection, Security, and IMAP (Internet Message Access Protocol) or POP3 (Post Office Protocol 3; for Webmail accounts). Mozilla's Thunderbird is another

popular email client, and to check your account settings in Thunderbird, click the Tools menu, select Account Settings, and choose the Server Settings option for the account you want to change. If you don't have the necessary information, contact your ISP to get the authentication data. The provider could also tell you if it has recently experienced any technical trouble that would stop you from receiving email.

For security purposes, some ISPs prefer all email going to your PC's email client—including email from Webmail services—to run through the ISP's servers. If this is the case with your ISP, the email client may block incoming email from your Webmail accounts. To fix the problem, you'll need to configure your PC's email client to send the Webmail through the ISP. With Outlook Express and Windows Mail, open the email client's settings, select the Webmail account, and click Properties. Select the Servers tab and configure Outgoing Mail (SMTP) and Outgoing Mail Server with the server information provided by your ISP. For Thunderbird, click the Tools menu, select Account Settings, and double-click the account. Select the Outgoing Server (SMTP) field and enter the appropriate ISP server address.

Filter Blocks

If your email client appears to be set up correctly, you'll want to check if your friend's message was sent to another folder or into a junk folder by your email application. Most email clients—including Vista's Windows Mail and Mozilla's Thunderbird utilities—let you set up message rules, so your email is presorted, and unwanted messages are automatically blocked.

The default setting for Windows Mail's Junk Email filter is Low, which allows most messages to reach your inbox. People that have switched to the High setting may find that legitimate email will more often be marked as Junk. Check the folder titled Junk

E-mail for your missing messages. To stop your friend's email from entering the Junk E-mail folder, select the email, click the Message menu, choose Junk E-mail, and click Add Sender To Safe Senders List. If you want to lower the protection level on your Junk E-mail folder, click the Tools menu and
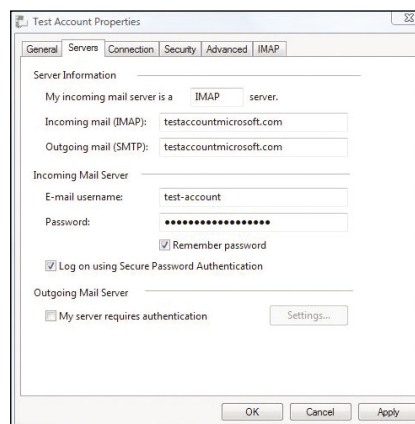
If you're not receiving any email, check that your email client's configuration settings match the documentation provided by your Internet service provider.
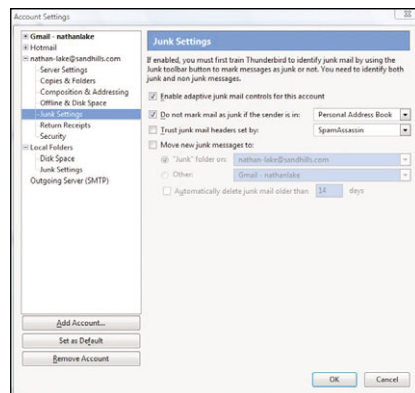
The lost email may be sitting in your email's junk mail folder.

select Junk E-mail Options. You can select from No Automatic Filtering (which isn't recommended), Low, High, and Safe List Only.

In Thunderbird, you can open the email account's settings (right-click the account and select Properties) and select Junk Settings. The easiest way to keep the sender's email from entering the Junk folder is to add the email

address into the Personal Address Book and click the Do Not Mark Mail As Junk If The Sender Is In Personal Address Book checkbox. You can also select Collected Addresses (a list of all the addresses to which you have sent messages) from the drop-down menu so your safe sender list is a bit larger than just your Personal Address Book.

It's also possible that your antivirus or firewall has blocked the email from reaching your inbox. Most popular virus scanners place suspect files (or in this case, emails) into quarantine, which you can view before the antivirus utility deletes the possible infection. Every antivirus utility varies, but there is usually a quarantine list or infection report that you can check for your lost email. Before you restore the file, try removing the infection to rescue the email, especially emails with attachments that the sender may have unknowingly passed on containing a virus.

Some **firewalls** (hardware devices or programs that control Web access on your PC) may also block your email client from receiving or sending email. Typically, the firewall will deliver an error message that indicates why your email client was blocked. You may need to modify your firewall's rules to allow your incoming emails from your email client. Similar to antivirus applications, the process varies per firewall. Generally, the process involves locating an Exceptions or Programs section and making an exception for the application in question.

Inbox Management

If you're still having trouble receiving email from a single contact, the problem may be on the sender's end or with her ISP. In particular, the ISP may not block certain types of attachments or attachments larger than a given size, or the email may just be stuck in the ISP's spam filter. Try having the sender use another account, such as a Webmail account, to send the email. ‖

BY NATHAN LAKE

YOU CAN'T FIND AN IMPORTANT FILE

In computing, everything boils down to files. Each of your digital photos is a **file** (a collection of data of a certain type). So is your résumé. An application, such as Adobe Acrobat Reader, contains one or more files, and the OS (operating system) Windows is a huge pile of files.

The extension at the end of a file name indicates the type of file and which applications can use it. For example, an EXE file is an application (or a part of one); a DOC or DOCX is a Microsoft Word file (as in MyResume.DOC); and an MP3 is an audio file (such as Breathe – U2.MP3).

You probably have thousands of files on your hard drive. If you suddenly can't find an important file, it may no longer exist in its prior location, or you've just realized that you have no idea where it was in the first place. We'll talk about both scenarios, but first, let's take a refresher course on Windows' built-in file manager.

Navigating Folders

Windows Explorer—not to be confused with the Internet Explorer Web browser—is a utility that lets you find, move, and delete files. You can launch it by pressing the Windows logo key and the *E* key at the same time or by right-clicking Start and selecting Explore.

Along the left side of the screen, you'll see a hierarchical list of hard drive **partitions** (chunks of storage, such as Local Disk C:), yellow folders (places to store files and other folders), and shortcuts to special folders, such as My Documents (Documents in Windows Vista) and the Recycle Bin.

In Windows XP and earlier, you can click a folder or drive (or the little plus sign [+] next to its name) to expand it so that it displays the subfolders and files inside. To "drill down" to a particular

By default, Firefox saves all downloads to the Desktop. Click Tools, Options, and the Main tab to change this setting.

folder, keep clicking the appropriate folders or their (+) signs. For instance, to see the files in C:\Program Files\WinZip (this is called a file path), you would click the (+) signs next to Local Disk (C:), Program Files, and then the WinZip folder. The Address Bar near the top of Windows Explorer tells you which folder you're viewing in the right panel. To collapse a folder or drive to reduce clutter on the screen, click its minus sign (-).

In Vista, a right-facing arrow replaces the (+) sign, and a down-and-right arrow represents the (-) sign. Vista automatically scrolls the view in the Folders column right or left as you expand and collapse folders and drives.

WinXP/Vista's Windows Explorer has a Back icon to return to the previous folder you visited. There's also an Up icon in WinXP to move up to the next-highest folder or drive. Vista doesn't have this icon, but you can click any part of the file path in the Address Bar to jump to it.

In Windows Explorer, you can right-click files or folders to check their Properties, Copy them, Cut them for pasting elsewhere, or Delete them. You can also drag and drop your personal data files to new locations. Be extremely careful not to move or delete files that

are parts of applications or Windows, or you'll cause problems.

Where Did It Go?

Depending on how you've organized your folders and files, you might have trouble digging up a particular file when you need it.

Browser downloads. Say you've downloaded a file from the Internet, such as an installer file, and you clicked Save instead of Run. Unless a Save As window appeared, or if you didn't glance at the file path of the download's destination folder, you may not know where your browser saved the file.

Some browsers such as Firefox (www.mozilla.com/firefox) save all downloads to the Desktop or a certain folder. However, with most browsers, you can change the save folder to a different one, such as My Documents. Some users prefer that the browser ask them where it should save the file every time they download something. Internet Explorer does this by default. It also returns to the last download's folder every time, so whichever folder you choose is the new default download folder, in effect.

In Firefox 3, click Tools and Options. Under the Main tab, click Browse next to Save Files To if you want to designate a folder for all downloads; click Always Ask Me Where To Save Files to go case-by-case with your downloads. Click OK to save any changes.

Recent file lists. Some users work with the same document for so long that the only way they know how to open it is to click it in the application's list of recently opened files (usually under the File menu). Of course, if you switch to a new application, such as Jarte (www.jarte.com) instead of AbiWord (www.abisource .com), the recent files list will be empty. Also, if you open four or more documents, your favorite one may be knocked off the list because you've opened others more recently.

Moreover, if you're used to clicking Open to access files, the command usually brings up the last folder you accessed. That's not a problem if the only folder you work with is My Videos (Videos in Vista), for instance, but if you open a file from another folder, that's the directory that will appear the next time you click Open. You'll need
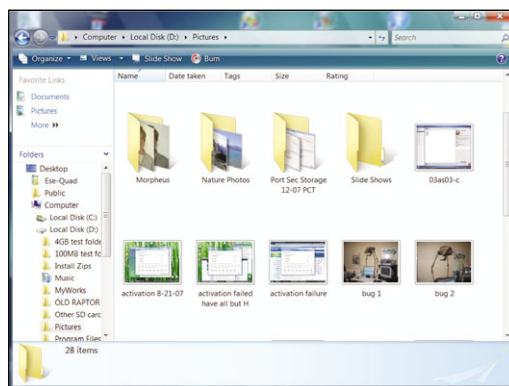
Windows Explorer shows you your computer's folders on the left and their contents on the right.
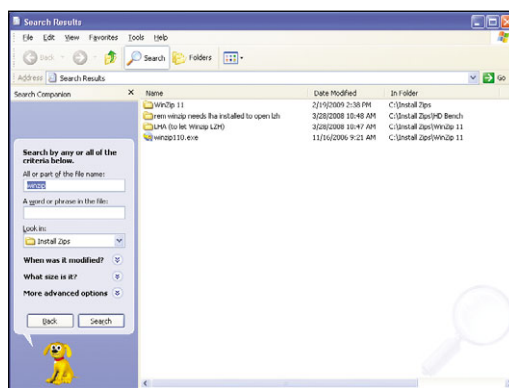
Right-click a folder and choose Search to use Windows XP's file-finding tool. In Vista, click a folder or the Start button and type your search terms.

to know how to navigate back to My Videos within the Open window. Luckily, Open's panel works the same as Windows Explorer, so you can collapse or expand folders as needed, using the Back and Up buttons if present.

Windows also keeps a master list of recently opened documents of all types, so you might be able to locate the file that way. In WinXP, click Start and Documents or My Recent Documents; in Vista, click Start and Recent Items.

Click a file to open it. This will automatically launch the associated application, such as Word 2007 for a DOCX file.

Searching. If you remember part or all of your file's name, try locating it with Windows' Search feature. In WinXP, click Start and Search. Select all Files And Folders. Type in the All Or Part Of The File Name field and then change the Look In menu to the folder or drive you think the file is in (click Browse if you want to be more specific). Use the A Word Or Phrase In The File field to search for documents or spreadsheets with particular words or numbers in them.

In Vista, click Start and then type your keywords in the Start Search field. In either OS, you can search in a particular folder. In WinXP, right-click it in Windows Explorer and choose Search. In Vista, click the folder to highlight it and then use the Search field at the upper right.

To look for a particular file type, simply search for its extension, such as .JPG for photos or .TXT for text documents. Windows' results will include any JPEG or TXT file in these examples.

Some users prefer the speed and flexibility of a free third-party utility, such as Copernic Desktop Search (www.copernic.com) or Google Desktop (desktop.google .com). Whichever you use, let it index your drive for a few hours after you install the search utility.

Missing Files

Sometimes, a file gets accidentally deleted, in which case you may be able to locate it in the Recycle Bin. If you find it, right-click it and choose Restore. If the file is no longer there, and you have a backup, restore the file from it. Also, see page 36 in *Smart Computing*'s April 2009 issue, where we reviewed several free and for-pay file recovery apps. ‖

BY MARTY SEMS

YOU CAN'T OPEN A DOCUMENT

It's time to dust off your résumé. Unfortunately, you've been at your current job for so long, your résumé was written with an ancient word processor for DOS.

You thought the struggle was over after you finally found the file, which has an eight-letter file name that was presumably easy for you to decipher in 1994. However, your troubles are only beginning, as your cutting-edge word processor can't open your document.

Missing Program

Windows has built-in applications that can open a variety of files, which are differentiated by their **file extensions** (the two to four letters after the periods in their names, such as the .DOC portion of MyResume.DOC). For instance, you can open TXT (text) and RTF (rich text format) documents with Windows' Notepad text editor and/or the WordPad word processor.

There have been scads of proprietary and open-source file types invented over the years. Some are obsolete, their parent companies long gone or absorbed by others. Others are free to use and technically innovative, but they're not popular enough to garner support from major software developers.

If you're faced with an important document file that you can't open with the first program you try, perhaps another app on your system will let you do so. Another angle of attack is to find a downloadable or online application that can open the document. Alternatively, if you can locate the installation media for the original word processor program, you can try to install it on your current system.

Once you can open your old document, the goal is to save it in a more universal format that most word processors and text editors can understand, such as TXT or RTF. At the very least, you should be able to print out the document so you have a hard copy of the information you need.

Reassociate

One nice thing about most OSes (operating systems) is that when you try to open a file, they will automatically launch the application associated with the file's extension, such as Word for a DOC file. This can be a problem, however, when a file is associated with the wrong app.

Should you see an error message such as Windows Cannot Open This File when you double-click a document,

click Select The Program From A List or similar and then click OK. Choose one of the listed applications (in Windows Vista, click the Other Programs down arrow icon) or Browse to search your storage devices for a program.

Before you click OK, however, uncheck the box marked Always Use The Selected Program To Open This Kind Of File. Until you're sure that an app can handle a particular type of document, such as MyResume.WPD, you don't want Windows to automatically use that program for every WPD it encounters from then on.

If you accidentally associate a word processor with an incompatible file type, right-click the file and choose Open With. In Vista, select Choose Default Program and then click the Other Programs down arrow. Uncheck the Always Use The Selected Program To Open This Kind Of File box, choose a different word processor or text editor, and click OK.

If you see the above error message, and you have no idea which application might work, choose the option labeled Use The Web Service To Find The Appropriate Program or similar. If Microsoft's online service doesn't recognize the file extension, try looking it up on a Web site such as www.fileinfo.com.

Golden Oldie

If you still have the installation media for the old program that created your document—not to mention the right type of drive, such as a 3.5-inch floppy—you might choose to install the app to access the file. If you have an older PC with an earlier version of Windows on it, try to install the program on it first. You might have better luck than with a recent WinXP or Vista system.

If a WinXP/Vista PC is your only option, the old app may or may not work correctly. If it installs but doesn't launch or is unstable, right-click the program's icon and choose Properties. Under the Compatibility tab, select the Run This Program In Compatibility Mode For box and choose an earlier OS from the drop-down menu. Click Apply and OK and then try launching the app again.

After you install a program for an older OS, Vista may inform you that it didn't install correctly. If this happens, let Vista try again with the compatibility settings it wants to use.

Dysfunctional File

If a file won't open even in an application that supports its extension, it might be corrupted or misnamed. It might also have been made with an earlier or later version of the software you have.

Version aversion. An application may retain the same file extensions (such as .DOC, .ZIP, and .PDF) over many years, but each new version may add features that older editions of the software can't use. Conversely, the latest version of an app might not faithfully reproduce the formatting of a document made with a very early iteration of the program.

In these cases, check with the software vendor for a free conversion tool or plugin for your current version of the software, if not an installer file for an earlier edition. Try some free apps that may be able to open the old-school document, such as OpenOffice.org. You might also use a search engine to uncover ways to convert an obsolete format, such as WordStar, to a file type a common word processor can read.

Misnamed. Sometimes savvy users use a WinXP file extension renaming trick to bypass filters when they need to email someone a "forbidden" file, such as an EXE (executable). First, they rename the file from InstallMe.EXE to something such as InstallMe.RENAMED. Next, they use a file compression utility to turn InstallMe.RENAMED into InstallMe.ZIP. Finally, they email the ZIP file to the recipient with a note to decompress it and rename the file InstallMe.EXE before launching it.

You might be able to make the extension-spoofing phenomenon work for your obsolete files in WinXP, too. Right-click the file, choose Copy, and then right-click a blank part of its folder and select Paste. This will make a copy of the file so you can work with it without endangering the original. Right-click the copy, select Rename, and then change the file extension to .TXT. If Notepad can open this pseudo-TXT file, you might be able to extract bits of the original text out of a sea of random characters that represent the formatting data and other information in the original file.

Note that Vista is smarter than WinXP when it comes to identifying file types. It won't be fooled by a simple extension change.

Corruption. If you suspect that your document has gone funny, your options are more limited. Because most file corruption happens because of a defect in its storage media or improper writing because of a caching or shutdown problem, traditional file recovery utilities may not have much chance of reclaiming all of the data. If you don't have a backup, try copying the file, renaming it with a .TXT extension as described above, and opening it in Notepad. Copy any intact shreds of text.

If you have a hard copy of the document, you can use a scanner to create an image file and then use software with OCR (optical character recognition), such as Able2Extract ($99.95; www .investintech.com), to make a PDF (Portable Document Format). Or, for something as short as a résumé, just retype it in a new document. ▮▮
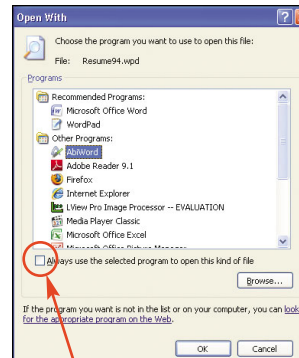
If you're simply trying out different programs to see which can open your document, be sure to uncheck the Always Use The Selected Program To Open This Kind Of File option.

FILE EXTENSIONS UNMASKED

There are plenty of file types (besides documents) that you may not be able to open with Windows' default utilities. Here's a partial list, along with some applications that can launch them (there are usually others).

Extension	Typical Content	Application
.PDF	document	Adobe Acrobat Reader
.MOV	video	Apple QuickTime
.RAR	compressed file(s)	WinRAR
.DOCX	document	Microsoft Office Word 2007
.XLSX	spreadsheet	Microsoft Office Excel 2007
.PPTX	presentation	Microsoft Office PowerPoint 2007
.EPS	document/image	Adobe Illustrator
.PSD	image	Adobe Photoshop

Browsers
Sync Bookmarks Across Browsers With Delicious

Many of us use one desktop computer at work and another at home. Maybe there's a laptop in the mix, as well. Whatever machine sits in front of you, it would be nice if it had all of your familiar Web bookmarks.

A number of tools keep bookmarks in sync from computer to computer and browser to browser. A particularly flexible one is Delicious.com. Once known as del.icio.us, the service snagged the rights to a less-confusing domain name.

Delicious works as a Web-based bookmark application, a Firefox add-on, or an Internet Explorer add-on. Install the browser extensions, and Delicious will keep all of your bookmarks synced on your own computers and at your Delicious page on the Web.
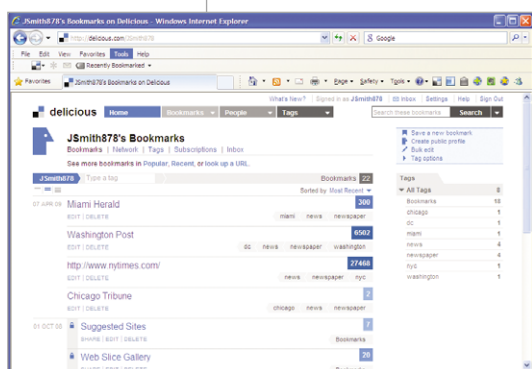
Delicious.com and its browser extensions give you an alternative way to track bookmarks and sync them among multiple computers.

Setup

Start by signing up for an account. Go to Delicious.com, click Join Now, and follow the directions. Click the Settings link and select the option to Import/ Upload Bookmarks. Simply click the Easy Import radio button.

To get the most out of Delicious, you'll want the right browser extension. Click the Help link in the upper-right corner and then look toward the middle of the page for the quick tour of either the Firefox or Internet Explorer add-on, depending on what browser you use. Click one of those links and follow the instructions to install the add-on.

With the Delicious add-on installed, you'll see three new buttons on your toolbar and a new Delicious Toolbar in the menu bar. The buttons and the menu have the same basic commands as the browser's built-in bookmarking menu.

Save Your Place

To bookmark a site, click the Tag button. A small window appears with the name of the current Web site and several fields where you can enter information or simply ignore. When you are finished adding tags or notes, click Save to add the site to your Delicious stable of bookmarks.

Tags work like folders in your browser's built-in bookmark menu, except that a single Web site can have a variety of tags. For example, you might describe the *Chicago Tribune* Web site with tags such as "news" and "Chicago." Later, you can search for those tags or call up lists of Web sites that share different tags or combinations of tags.

You can view and select your bookmarks a couple of different ways. First, make sure your Delicious Toolbar is enabled by choosing it in the View menu under Toolbars. Next, click the Delicious button on the far left end of the toolbar and choose Bookmarks View. A Recently Bookmarked button appears next to the Delicious button, and links to recently bookmarked sites show up along the toolbar. Click Recently Bookmarked to see a submenu with other bookmark groups, such as Most Visited.

To see all of your bookmarks at once, click the Bookmarks button. The Delicious sidebar appears to the left of the main browser window. The sidebar lists all tags in one list and all bookmarks in another. Click a tag to see the bookmarks with that tag in the list below. Click the blue "X" button near the Search field to return to viewing all bookmarks. As you might expect, clicking a bookmark brings that site up in the main window.

Options

If you don't use Firefox or IE, you can still use Delicious to access your bookmarks. Set up an account as described and then install the site's bookmarklets tools that work on just about any browser. Look for the Delicious bookmarklets at delicious.com/help/bookmarklets. Scroll down the page to locate the section for your browser. Next, simply drag the two listed links to your bookmarks toolbar.

The first link, Bookmark On Delicious, gives you a one-click way to add a new bookmark to Delicious whenever you come across a site you want to remember. The second, My Delicious, is a pretty standard link to the Delicious site.

Delicious provides different ways to view and search bookmarks, as well as bookmarks belonging to other Delicious users. You may even find some interesting sites to add to your own list, now accessible from any computer. ▌▌

BY ALAN PHELPS

Microsoft Excel 2007

Troubleshoot Spell Check

If you're convinced Excel is just about numbers, wait until you show a client a spreadsheet with a few words misspelled in column headings. It'll quickly sink in that spreadsheets are multifaceted reporting documents. It pays to get the figures *and* words right. Excel helps prevent embarrassing text errors. The following tips help you solve some common challenges that keep you from getting every word right in an efficient way.

Sometimes I notice I've misspelled a word such as "Mondya," but Excel doesn't flag it with a wavy red line as Microsoft Word does. It also doesn't flag grammatical errors.

Microsoft Office applications share a lot of the same features, but the instant flagging of typos isn't one of them. While Word and PowerPoint alert you immediately to misspelled words, Excel can't do this. Additionally, it doesn't have grammar-checking capabilities.

I want a quick and easy, check-all-the-text-at-once approach.

That, Excel can do. To check the spelling in an entire worksheet, click any cell and press F7. This produces the kind of spell-check dialog box you're probably familiar with from word processors. You can choose to ignore a flagged word's spelling, ignore all occurrences, change the noted occurrence to the spelling Excel recommends, or change all occurrences to the recommended spelling.

My worksheet includes a lot of comments on cells, and I'm not sure they're being checked.

The standard Excel spell check you initiate by pressing F7 checks comments as part of the job. When the spelling dialog box flags a word in a comment, the comment box moves into view on the main screen so you know where Excel is looking.

The spell check brought up a word I don't see anywhere in the worksheet.

The word probably appears in a comment that's hidden. Excel checks words in these comments, but because the word's source doesn't appear on-screen, it's easy to get confused. To make the spell check easier to follow, make all comments visible before starting the check. To show comments, go to the Review tab and click Show All Comments.

One of my formulas produces a message of "Exceeds Standerd," and Excel didn't catch the misspelled word.

That's because formulas and any text that formulas produce are not part of the standard spell-check regimen. You'll have to manually review your spelling in those places.

I spell-checked my worksheet, but when I started working on other tabbed worksheets, I found some misspellings.

Spell checks apply only to the active worksheet. To check another one, click its tab and press F7.

Spell-checking my entire worksheet takes several minutes, and I really only need to check the block of names I just added in a salary report.

You can limit Excel's spell check to a defined section of the worksheet by holding down the mouse button and dragging over a range of cells. Press F7 to start the spell check. To check an entire row or column, click the row or column heading before starting the spell check.

I have to tell Excel to ignore the spelling of our company name. I'm worried that someday I'll automatically click Ignore Once when the company's name is spelled wrong.

The solution to both of these concerns is adding your company's name to the Microsoft Office dictionary. When spell check flags the word, click Add To Dictionary. From now on, every Office program will skip your company's name when it's spelled correctly and flag it when it deviates from your dictionary entry. The shared Office dictionary works throughout the program suite, which means you can enter a word once and count on it being checked correctly in Excel, Word, and PowerPoint.

For words you type often (and misspell the same way often), you can set Excel to correct the word automatically when you type it. The first time spell check flags the word, click the correct spelling in the list of suggestions and choose AutoCorrect. This works with words you've added to the dictionary, too, letting you automatically correct a common misspelling of your company's name. ▌▌
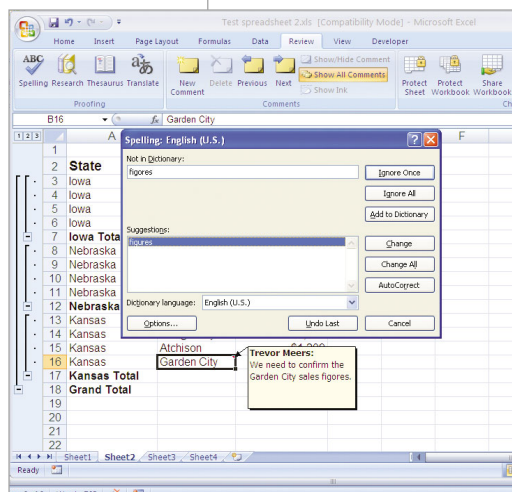
Excel's spell-check feature looks for problems in some hidden corners, including comments attached to cells.

BY TREVOR MEERS

Online

Leave Behind Instructions For Your Virtual Self

Have you ever thought about what will happen to your digital life after you're gone? Maybe you store family photos at Flickr, keep important documents at Google Docs, or use online bill pay. Perhaps you have acquaintances who only keep in touch through a social networking site. Leaving behind a message, instructions, or at least a few passwords could be useful.

Preplanned Services

A couple of Web sites will store the key data you want to pass along and send it to specified recipients when the time comes. The tricky part is knowing just when that time is.

Death Switch (www.deathswitch.com) basically sends you periodic emails on a schedule you set. If you fail to reply within a certain time, the site assumes the worst and delivers one or more emails you've prepared in advance. The basic service is free; you just need a valid email address to sign up. If you need more than one message, you can pay $19.95 a year for up to 30 emails with attachments.

What if you change your email address or go on a long trip and fail to respond? Perhaps a prolonged illness will prevent you from using your computer. Things happen in life that don't necessarily mean death.

If you don't respond to the regular prompt, the service enters a worry mode that sends more frequent prompts. You can also set up an alternative email address for the emails. Finally, Death Switch will attempt to contact a specified representative with an email asking them to make sure you respond to the site.

Online Legacy

A second site, Legacy Locker (www.legacylocker .com), takes verification even more seriously. Before sending your information to your specified

recipients, the company requires a physical death certificate. Someone needs to actually report your death to Legacy Locker. The company then contacts one or more "verifiers" that you designated as trusted people who can confirm the report and send in the death certificate.

Legacy Locker's Web site reminds us of a funeral home. The graphics are soothing. The tone is calm and reassuring. The site refers to the passwords and other information you want to pass on as your "assets" and the folks who would receive the information as your "beneficiaries." You can keep three assets for one beneficiary free; an annual $29.99 charge gives you unlimited assets and beneficiaries.

Along with your assets, you can also put Legacy Letters (read: emails) in your locker to be delivered to designated beneficiaries when the time comes.

The way Legacy Locker divides up all of your assets makes it easy to organize different account information and who will receive it. If you have some passwords for friends, others designated for family, or some best handled by an attorney or accountant, you can designate them accordingly.

Rest In Peace?

Do these sites really work? You'll never know for sure. You could test out Death Switch by not replying to the emails (just make sure you don't accidentally distribute a premature announcement). Legacy Locker's requirements rule out a trial run, but the site seems to do what it claims by the system of checks it has in place.

A better question is whether these sites will last as long as you do. If you're going to rely on something such as Legacy Locker or Death Switch to perform important duties, you will want to check the site on occasion to make sure it's still in business. Obviously, information about financial accounts and the like should be included in a more traditional format, such as a backup.

For more casual connections, a service such as Legacy Locker could fill a void. Online forums you frequent, blogs you run or regularly comment on, and other social sites might be good candidates for a Legacy Letter. It's something that will live on, if only on a backup server somewhere. ▐▌

<div align="right">BY ALAN PHELPS</div>

Legacy Locker stores important account passwords and passes them on to designated beneficiaries when the time comes.

Quick Studies
How-To

Digital Media
Suite

Beginner

WinXP/Vista

Roxio Creator 2009

Introduction To Creator 2009

We here at *Smart Computing* have been covering Roxio PhotoSuite for more than a decade—back when the program was still developed by a company called MGI Software. But time marches on, and so do we. PhotoSuite has been absorbed into Roxio's Creator all-in-one software, and now we bid a fond farewell to PhotoSuite and turn our coverage to Creator 2009.

Roxio calls Creator 2009 a "digital media suite," and that's just what it is. Creator's components fall under five broad categories: Photo, Music, Video, Burning, and Sharing. Here's a brief look at each one. *(NOTE: System requirements for Roxio Creator: Windows Vista Home Basic or Windows XP, 1GHz processor, 512MB RAM, 3GB free hard drive space, and a 1,024 x 768 DirectX 9-compatible graphics card with at least 16-bit color setting.)*

Photo. Those familiar with PhotoSuite will recognize a great deal in the Photo section of Creator. In fact, when you click most of the tasks in the Photo section, such as Edit Photos, Create Projects, or Print, you open windows that are updated versions of the same PhotoSuite tasks. You can import photos; edit them singly or in batches; create slideshows, panoramas, and projects, such as cards and calendars; and organize photos on your computer. A couple of notable features include the ability to create online slideshows with animated graphics and the ability to edit photos so they match a mobile device's screen resolution and size.

Roxio Creator 2009 is an all-in-one product for photos, music, and video.

Music. Editing isn't just for photos. The Music-Audio component of Creator features a Sound Editor that lets you mix and match your sound files. You can crop unwanted parts, add effects, combine files, and equalize the volume of songs in a playlist. Speaking of playlists, Creator has a beat-matching tool that synchronizes the rhythm from one song to the next and another tool that builds a playlist around one song that you select. Some of the other features that we'll be getting to know include converting audiobooks for playback on portable media devices such as iPods; digitizing old record albums and tapes (and removing some of those crackles); and adding title, artist, and genre information to music files automatically.

Video. If you don't have a little Danny Boyle in you—and let's face it, most of us have fantasized at some point about making a movie—then perhaps it's the Roger Ebert side of you that will take over when you work with Creator's Video-Movies component. Would-be directors can create movies from photos and video clips using Creator's numerous themes. Would-be critics, on the other hand, can edit and clean up video to their own idea of perfection with timeline, storyline, and effects tools. In addition, you can use Creator to archive TiVo shows or capture video from more than a hundred different devices, and an add-on gives you Blu-ray video-authoring capabilities.

Burning. Keeping in mind that you must follow copyright laws when you burn content, Creator lets you perform a wide range of copying tasks, and you aren't limited to media files. You can use the software to back up data and media files to CDs, DVDs, BDs (Blu-ray Discs), and networked discs, and the backups can be scheduled, encrypted, and password-protected. The Catalog feature lets you create a searchable index of disc contents. You can perform a number of DVD burning tasks, including copying up to four hours of DVD content onto a single disc. And, you can convert media files for syncing with your portable media player or cell phone.

Sharing. Once you've learned how to edit photos, create slideshows and movies, and put together unforgettable music playlists, you'll probably want to share them with friends and family and perhaps even beyond. Creator's sharing aspect not only lets you burn media onto discs and put content onto portable players, but it also lets you share your media online. Roxio has a Web site devoted to its users' media, and you can invite others to see public or private sites. Or, you can upload your content to other sites, including YouTube, Facebook, or your own personal Web site.

We hope you've enjoyed this brief tour of Creator. In the coming months, expect to see us covering in-depth some of the many topics we've introduced here, plus others that we have yet to mention. ∎

BY HEIDI V. ANDERSON
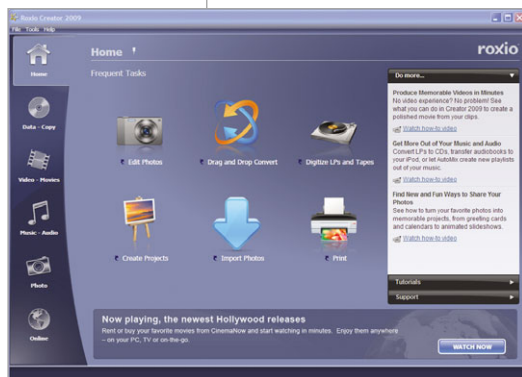
Microsoft Word 2007

Use Footnotes & Endnotes: Part 1

There are several ways to cite sources and references in Microsoft Word 2007. You can create a bibliography, footnotes, or endnotes. In this and next month's column, we will focus on the last two methods: footnotes and endnotes, which are very similar.

The main distinction between footnotes and endnotes is implied in their names: Footnotes appear at the bottom (or foot) of each page, whereas endnotes appear at the end of a section or of a document. We will use the term "notes" in this column to refer to both footnotes and endnotes except when there is a distinction between the two. A single document can contain both footnotes and endnotes.

Notes have three basic elements. The first is a **reference mark**, which is a number or symbol in superscript (that is, slightly above the regular text's baseline) next to the text being noted. The other elements concern how the note appears at the bottom of the page (for footnotes) or at the end of the section or document (for endnotes). The **separator line** separates the note section from the body text. The reference mark appears again below this line next to the corresponding text. The final element is the **footnote text** or **endnote text** itself. Although they may appear to be part of a single unit, the reference mark and footnote/endnote text are distinct from one another.

Placing Notes

Now let's look at the basics of creating and manipulating notes. Open a document and type or copy some text into it. Position the cursor where you want to place a reference mark. There are two ways to place a footnote reference mark: press CTRL-ALT-F or go to the References tab on the Ribbon and click the Insert Footnote button. If this is the first footnote, the number 1 will be placed by default at the insertion point and at the beginning of the footnote text.

The footnote will appear differently in the document depending on the view you are using. In Print Layout view, the footnote reference mark that accompanies the text will appear at the bottom of the page. In Draft view, the mark will appear in a separate area at the bottom of the Word window. If the Footnote area doesn't show, go to the References tab and click Show Notes. Whichever method you use, you then simply enter the text you want to use for your footnote.

Placing an endnote is a similar process. Place the cursor within the document where you want to add the note and press CTRL-ALT-D or click Insert Endnote on the References tab. In Print view, Word will insert the reference point and jump to the end of the document where the note can be placed. In Draft view, endnotes appear in an area at the bottom of the window, just like the Footnotes area (except that the area is called Endnotes).

Work With Notes

There are several tools within Word that you can use to modify your placed notes. Deleting a note requires you to delete that note's reference mark in the main body of the document; deleting the footnote text does not delete the footnote altogether. To delete a reference mark, simply select it and press DELETE. This deletes the mark and all other elements of the note, including the note text.

You can change placed notes from one kind to another easily. If you want to change the type of a single note, right-click the note's text and choose Convert To Endnote or Convert To Footnote. To change all the notes in a document from one type to another, open the Footnote And Endnote dialog box. Open the box either by right-clicking a note's text and clicking Note Options or by clicking the small arrow in the Footnotes group on the Ribbon.

Click the Convert button in the dialog box. Another box will open with options depending on whether you have just footnotes, just endnotes, or both in the current document. You can change footnotes to endnotes or vice versa. You can also "swap" the positions of all endnotes and footnotes.

Next month, we will continue our look at footnotes and endnotes, including how to change formatting and navigate among them. ∎

BY TOM HANCOCK
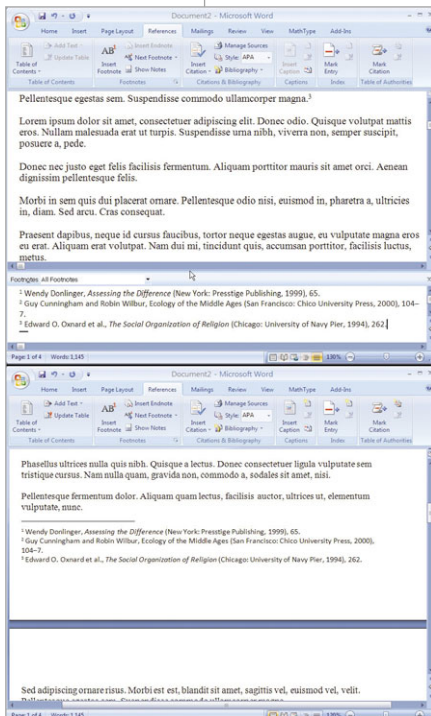
In Draft view (top), you see the notes in a separate area within the Word 2007 window. In Print view, you see the notes as they would appear on the printed page.

PowerPoint 2007
Create Organizational Charts

In today's economy, you might need a printed program to help you identify your boss after the latest round of corporate reorganizations. While we can't offer much help with the overall corporate culture, we can help you create documents that clearly show corporate reporting structures.

PowerPoint's built-in organizational charts provide a quick way to depict reporting relationships of people, business units, and more for everything from departments of a few employees to large groups. Rather than manually creating a graphic out of several boxes and lines—or even using an all-purpose prefab graphic—use the organization chart feature, grab your company info, and drop it into the appropriate slots.

Acme Corp. International
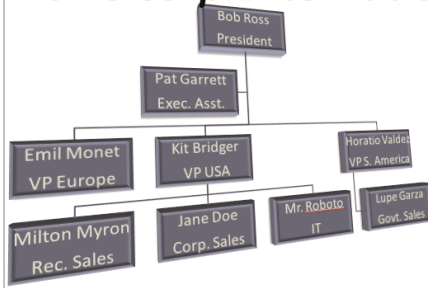
PowerPoint's organization chart feature offers a quick way to create good-looking summaries of your company's structure.

Create The Chart

On the Insert tab, click SmartArt and then Hierarchy in the dialog box. Several of the hierarchy diagrams may look like they could work, but for true org chart features (such as a box designed to indicate assistants), click the actual Organization Chart option and OK.

PowerPoint inserts a basic org chart with one manager, one assistant, and three employees. To add more shapes, click the Ribbon's Design tab and click the bottom half of the Add Shape button. On the drop-down list, you can choose Add Shape After to insert a new shape on the same level and to the right of the currently selected object. Add Shape Before places the new shape to the left of the selected object. Use Add Shape Above and Add Shape Below to add supervisors or subordinates to the selected object. The Add Assistant button inserts a box below the active one but to the side rather than on the same level as the box's other subordinates.

With all of your required boxes in place, it's time to add text labels to each box. You can click in the text box on each shape and type your information. After you click outside the box, PowerPoint automatically sizes the text to fit in the box. As you enter other names in other boxes, PowerPoint resizes all the text to match the smallest font. (If your team includes a name like "Howard Szcyewskiwitz," every name on the chart will get the same small font required to make Howard's name fit.) Keep in mind that you can cut names and titles from a program like Word and paste them into boxes to speed up the data entry and prevent errors.

Rather than clicking each box and entering text, you may find it easier to use the Text Pane. To see the pane, click the Design tab on the Ribbon and click the Text Pane button. This box lets you type information next to a series of bullets, each of which represents a box in the org chart. It can be a little quicker to work with since you can move among boxes with the arrow keys rather than clicking each box with the mouse.

You'll also discover that the Text Pane provides a quick way to add more boxes to the chart. If you click at the end of a text line and press ENTER, PowerPoint inserts another box on the same level as the one you were on. Highlight an empty line and press DELETE to remove the box from the diagram.

Add Style

As you'd expect with a preformatted graphic, you can quickly adjust the look of a PowerPoint org chart. The org chart's hanging layout design lets you alter all the objects below the selected object. Click a supervisor's box, for example, and then click the Design tab's Layout button and choose one of the horizontal or vertical arrangements.

Click the Design tab's Change Colors button to choose from a variety of color themes. Hovering the mouse pointer over a theme previews how it would look on your actual chart. When you spot a color theme you like, check out the various outline and gradient options available for each theme. SmartArt styles offer a little more thorough makeover to your chart by changing touches such as shading, beveled edges, and 3D effects.

While all these quick-change packages are handy, don't forget that you can individually edit any item in a chart. To change a box's color, for example, select it, and then go to the Ribbon's Home tab and use the Shape Fill button to choose a new color. ▐

BY TREVOR MEERS

Quick Tips

## Secrets For Succeeding In Common Tasks

BY STEPHEN J. BIGELOW

Subnet Mask

Question: What is a subnet mask? Do I need to enter one when I install a new PC or set up its network address?

Answer: The subnet mask is a second set of four numbers used in conjunction with the PC's IP (Internet Protocol) address. Subnetting can be a tricky networking topic, but simply put, the subnet mask divides an IP address into two identifiers that specify both the network and the host (the PC on the network). In most cases, you do not need to worry about the subnet mask. It's provided to your PC dynamically along with the IP address and default gateway (router) address by your network's DHCP (Dynamic Host Configuration Protocol) server in your broadband router itself.

The only time that you may need to consider the subnet mask is when you assign static IP addresses to host devices
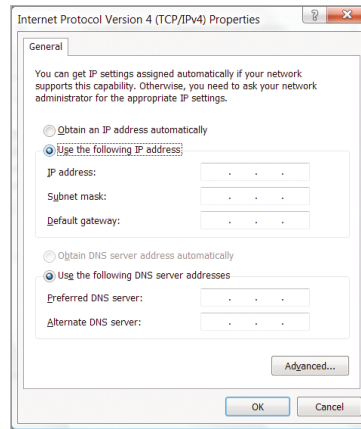
You can enter a subnet mask through the computer's TCP/IP Properties or simply allow the computer to receive its IP address from the DHCP server.

(such as when you're setting up your own file server or Web server). For example, in Windows Vista, click Start, Network, Network And Sharing Center, and Manage Network Connections. Right-click the network you need to control and click Properties. Highlight

the Internet Protocol Version 4 (TCP/IPv4) entry and click the Properties button. Now, click the Use The Following IP Address radio button and enter the new IP Address, Subnet Mask, and Default Gateway. Click OK to accept your changes.

For just about every SOHO (small office/home office) user, you will select a Class C IP address starting with a first number ranging from 192 to 223. An example might look like 192.168.0.99. All IP addresses in the Class C range use a subnet mask of 255.255.255.0. The default gateway is the IP address of your broadband router (such as 192.168.0.1) so that any Internet-bound traffic knows where to go to leave your LAN (local-area network). You could use a different subnet mask, but it's not recommended unless you're a networking pro.

System Restore

Question: Should I still make regular restore points on my PC these days? How can I create restore points using Windows Vista?

Answer: Vista will usually create restore points during major events, such as Windows upgrades, but you should make it a practice to create your own restore points before adding or changing hardware, upgrading important drivers, or installing critical applications. You can create restore points by clicking Start, All Programs, Accessories, System Tools, and System Restore. Click the Open System Protection link, select the folders or drives that you want to protect, click the Create button, and enter a name for the restore point. It will take a few moments to create the restore point, and you'll see the latest restore point appear in the System Protection tab of your System Properties window. You can restore the PC's state to this point by clicking the System Restore button and selecting the desired restore point.
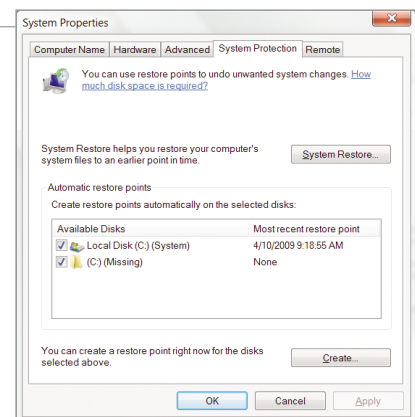
It's a good idea to create restore points before making significant changes to the computer's hardware, drivers, or applications.

MAC Addresses

Question: How can I find the MAC (Media Access Control) address of my internal NIC (network interface card)?

Answer: Windows XP and Vista provide the IPCONFIG tool that will report information about each of your network devices and connections. In WinXP, click Start and select Run. Type **cmd** and press ENTER. In Vista, type **cmd** in the Start Search field and press ENTER. When the Command Prompt window opens, type the following command and press ENTER:

ipconfig /all

Look for the entry labeled Physical Address, and you will see six sets of two hexadecimal numbers, such as 00-1D-E0-B3-E0-BD. This is the MAC (physical) address of the network interface device of your PC. If your PC contains multiple network interfaces, such as wireless and wired NICs, Bluetooth interfaces, and tunneling (virtual private network, or VPN) connections, you will see each set of info reported by the ipconfig /all command.

Sensitive Data

Question: Is it really possible for people to recover files that I have deleted, even if I empty the Recycle Bin? What can I do to stop that?

Answer: Data on magnetic media is never destroyed—it's only overwritten. This happens with data on your hard drive. A file is broken up and recorded across your drive. When you delete that file, the areas on the drive that held the file's pieces are marked "free" and can be reused, but the file's actual data remains until those "free" areas are overwritten with new data. Forensic data recovery tools can read the areas that hold data and see what's there even if those areas are marked free. The files may be incomplete, but portions can potentially be recovered.

The best way to prevent the forensic recovery of sensitive data is to use a file-shredding utility to overwrite the hard drive's free space with multiple sets of random data. Tools such as File Shredder (www.fileshredder.org) are effective and free.

Microsoft Outlook

Question: What is AutoArchive in Outlook? How should I set up AutoArchive for my SOHO users?

Answer: Your mailbox will get larger as Outlook sends and receives mail. Over time, the size of an Outlook mailbox can become unwieldy, resulting in slow performance. Outlook lets you reduce clutter and keep the mailbox trim by relocating older mail to a secondary storage location. This is the AutoArchive function. In Outlook 2007, access AutoArchive manually by selecting Tools, Mailbox Cleanup, and clicking the Auto-Archive button.

To configure AutoArchive, click Tools, Options, select the Other
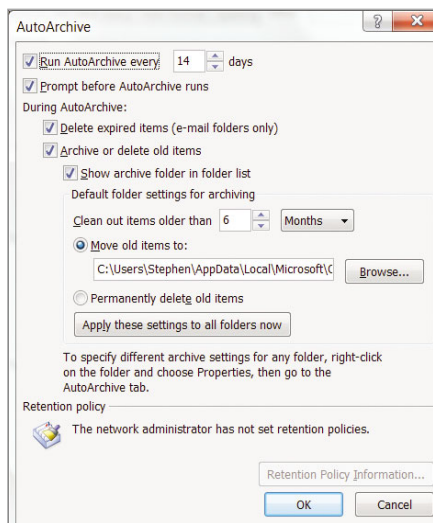
Keep Microsoft Outlook functioning efficiently by archiving old messages on a regular basis using Outlook's AutoArchive feature.

tab, and then click the Auto-Archive button. The default settings for AutoArchive are fine for most users, but you can easily adjust the archive frequency, archive location, and preferences for handling old or expired email. Click OK to save any changes. Be sure that your Auto-Archive settings (especially email disposal preferences) meet any email retention policies that your business is subject to. If you have your own email server, configure email retention policies on that server so that email is preserved for the prescribed duration and completely deleted thereafter.

Make The Connection

From computers to HDTVs (high-definition televisions) to consumer electronics, one thing you can count on is a smorgasbord of ports. Gadgets use different kinds of cables to connect to other gadgets, sending data, video, and audio.

Of course, if you're unfamiliar with all the ports and cables out there, the back of your PC or TV can look pretty bewildering. Let's take a peek at most of the standard connections you're likely to see. (*NOTE: Some manufacturers use different names for versions of the following ports, such as Sony's iLink edition of FireWire.*)

HDMI

A High-Definition Multimedia Interface cable carries both digital video and surround-sound digital audio. It's capable of transmitting very high-quality signals, including 1080p video and HD surround-sound formats.

DVI
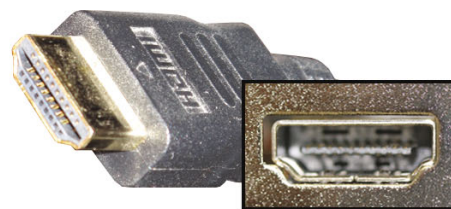
Digital Visual Interface video quality equals HDMI's. It can be adapted to HDMI and often VGA (Video Graphics Array).

Component Video

This connection uses three-headed RCA-style cables to carry separate parts of the video signal. Typical component video quality hovers between HDMI/DVI and S-Video (Separate-Video).
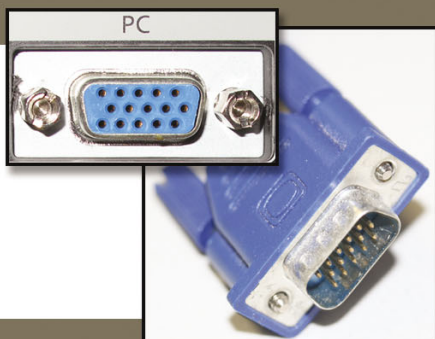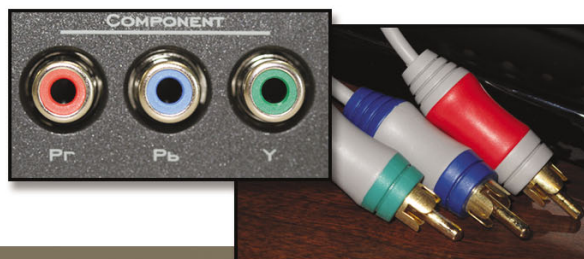
VGA

Widely used since the 1990s, this analog, 15-pin video cable saw use in CRT (cathode-ray tube) monitors and low-end LCDs. It can't match the picture quality of digital connections.

Composite Video

A yellow RCA jack indicates a composite, analog video input or output. Quality is low because all aspects of the video signal are crammed into the same copper conductor where they can affect each other.
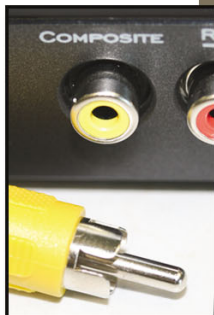
S-Video

Often labeled "TV-Out" on low-end and older graphics cards, this analog component video connection provides slightly better color and sharpness than composite video.

USB Type A

The aptly named Universal Serial Bus is found in nearly all computers and many HDTVs and consumer electronics. USB 2.0 is rated to send data at up to 480Mbps (megabits per second, or 60MBps), which realistically means about 33MBps. This wide Type A connector attaches to host devices such as PCs. SuperSpeed USB, or version 3.0, uses the same shape of connector and is backward-compatible with older USB 2.0 and 1.1 devices. However, an extra fiber optic in a USB 3.0 cable will give up to about 4.8Gbps (600MBps) of theoretical bandwidth to compatible devices.
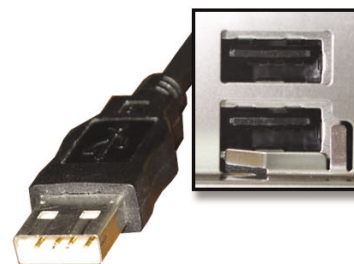
FireWire

This 400Mbps (50MBps) connection is also known as IEEE 1394. FireWire 400 transfers data at approximately 33MBps.
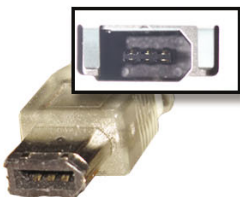
USB Type B

The other end of most USB cables typically has a Type B connector reserved for client devices such as external hard drives and the like.

Mini FireWire

Portable electronic devices such as camcorders may use Mini FireWire 400, also called a DV port, to keep their output jacks from getting crowded.
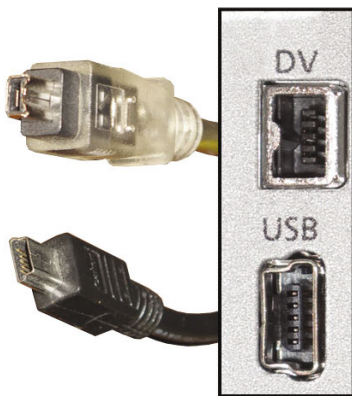
Mini USB

Camcorders, MP3 players, and other small electronic devices use Mini USB to save space.

eSATA

This external version of the 3Gbps/1.5Gbps Serial Advanced Technology Attachment interface has a slightly different connector. It lets external hard drives and optical drives perform as fast as internal ones.
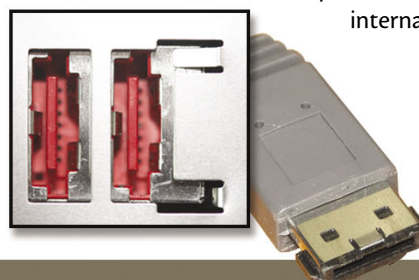
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Top Photo Tips

Below is a sampling of the tips available at the Smart Computing.com Daily Tips Archive.

○ If the autofocus on your digital camera has a tough time locking on when you're shooting close-ups, switch to the camera's Macro mode, if available. Otherwise, set the camera to its highest resolution and lowest compression level, step back, take the shot, and crop it down to size later using an image editor.
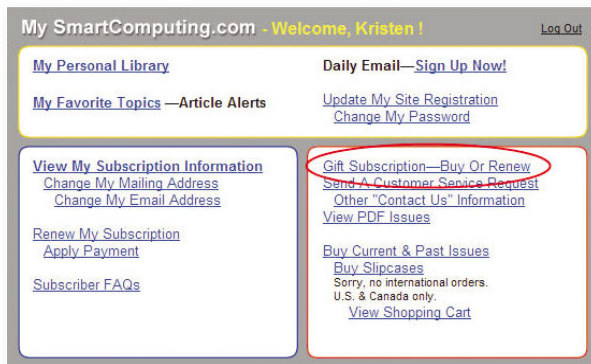
○ Achieving sharp focus is difficult when taking stop-action shots with your digital camera because auto-focus mechanisms are often too slow. Switch to manual focus and then lock onto an object near the area where you anticipate your moving subject will be. Then you can simply snap the shot as your subject comes into view.

○ You might have seen optical and digital zoom listed in camera specs. Optical zoom uses the camera's lens (optics) to magnify the view. Because only the camera's lens is used to capture the full amount of megapixels, your image will be sharper and smoother than with digital zoom.

Smart Computing Dictionary

sepia mode

A picture-taking mode many digital cameras have that lets users take images that have an overall brownish or bluish tint or impression. Sepia modes are specifically used to give images an antique or aged feel.

What To Do When
Your Photos Are Blurry Or Fuzzy

I t's disheartening to capture a picture-perfect moment with your digital camera only to find that the picture is fuzzy (out of focus) or blurry (caused by motion) and the moment is over. Thankfully, there's software available to help clean up your pictures, and there are ways you can prevent it from happening again.

Clear Up Blurry Or Fuzzy Photos With Software

As you are sharpening your photos with photo-editing software, be careful that you don't over-apply the techniques. Otherwise, your images will look grainy or distorted. In this section, we'll detail the steps to take to fix blurriness or that slightly out-of-focus, fuzzy look in a photo with two commonly used photo-editing programs: Corel Paint Shop Pro Photo X2 ($99.99; www.corel.com) and Adobe Photoshop CS4 ($699; www.adobe.com).

Adobe Photoshop CS4. Once you open Photoshop, select File and then Open. Choose the photo you want to fix. Because the photo is blurry or fuzzy, we want to sharpen it. Click Filter on the top menu bar and then select Sharpen. You can choose between Sharpen, Sharpen Edges, Sharpen More, Smart Sharpen, and Unsharp Mask.

Choosing Sharpen will automatically increase the image contrast and define the edges of your image using a preset algorithm, and Sharpen More will automatically enhance the contrast more than Sharpen using a different algorithm. Unsharp Mask lets you locate a region, and then it will find the pixels that are different in value than the surrounding pixels by a threshold that you define.

Selecting Smart Sharpen will give you more control over your image because it lets you set the algorithm and manage the amount of sharpening in certain areas of your photo. You can also select whether you want to remove Gaussian blur (which sharpens just like the Unsharp Mask filter), lens blur (finer sharpening of details with less distortion), or motion blur (reduces blurriness caused by motion). By increasing the radius, you will increase the number of pixels surrounding the edge pixels affected by the sharpening. The larger the radius value, the wider the edge effects and the more intense the sharpening effect will be.

Corel Paint Shop Pro Photo X2. Corel should automatically pull up your photo files, so you can simply double-click an image from the collection at the bottom of the screen. If you don't see your photos here, you can open the photo you want to retouch manually. To do this, click File and then Open. Then, you can navigate to your photo files.

On the top menu bar of the program, select Adjust and then choose Sharpness. You have the choice of selecting High Pass Sharpen, Sharpen, Sharpen More, and Unsharp Mask. High Pass Sharpen performs high-frequency sharpening and lets you have more control over the sharpening than some sharpening features, such as Sharpen and Sharpen More. To apply minimal sharpening with a preset algorithm, choose Sharpen. If that's not enough, you can choose Sharpen More. Unsharp Mask lets you have more control over the sharpening process.

If at any time you want to undo the effects added to your photo, go to the top Ribbon and find the arrow looping backwards. This is the Undo button.
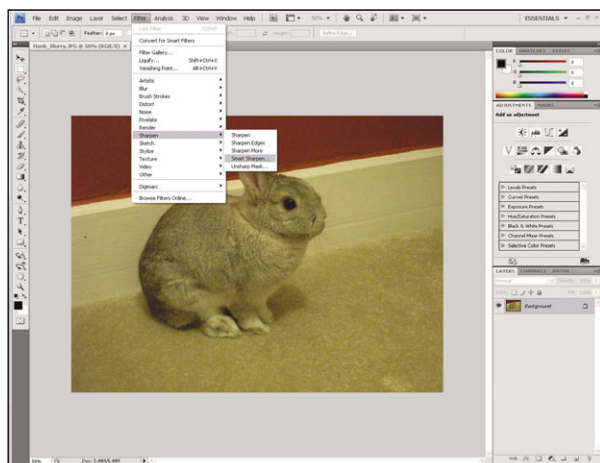
Adobe Photoshop CS4 has Smart Sharpen, which provides you with a high level of control over the sharpening of your image.

Unsharp Mask on Corel Paint Shop Pro Photo X2 will help you find the right amount of sharpening to apply to your image.

How To Prevent Blurry & Fuzzy Photos

Preventing distorted photos is much easier than trying to fix your pictures after they've been taken. Images usually come out fuzzy or blurred because the camera is out of focus, the lighting isn't right, the subject is moving, or you are moving your camera.

Your camera will produce fuzzy photos if it isn't in focus. Many cameras have automatic focus technology, so check your users manual to be sure it's turned on. With some cameras, you will need to push the shutter button halfway down to focus the picture before pushing it all the way down to snap your photo.

Fuzzy photos are also often a result of lighting imperfections. If your camera has scene modes, such as night mode or portrait mode, be sure to use them. By selecting the appropriate scene mode, your camera will automatically change its settings to take the best image possible for the environment you are in.

In order to take photos of moving objects, such as your daughter at her T-ball game, without blurriness, you need to use a quick shutter speed (the length of time your camera's sensor captures light). Also note that any time you move your camera while its shutter is open, your photo is going to be blurry. When you reduce the amount of time the shutter is open, you reduce the likelihood your photos will be blurry. Check your camera's specifications to see if you can manually adjust the shutter speed on your camera. For a D-SLR camera, a shutter speed of 1/4,000 second is considered fast, and a quick shutter speed for a point-and-shoot camera is around 1/3,200 second.

Another thing you can do to avoid blurry photos is to purchase a camera with image stabilization technology or purchase a tripod. Image stabilization technology can detect movements and will offset the movement by positioning the image sensor in the opposite direction. A tripod gives the camera a steady and stable base, which means there will be less of a chance the camera will move while the photo is taken.

Picture Perfect

If you can find a pattern in your distorted images, such as the type of lighting you're in or activity you're capturing, it will be easier to identify ways to prevent it from occurring. For example, if photos taken in your living room always turn out fuzzy, it's probably a lighting issue. If photos from your daughter's soccer game turn out blurry, you probably need to adjust the shutter speed.

Additionally, you can avoid blurry photos by simply holding still while you take a photo. Try to keep a steady hand and focus on shooting the photo, and it's likely you'll end up with a sharp, clear image you can feature on your mantle. ▐▌

BY TESSA WARNER BRENEMAN

Canon's PowerShot SD780 IS ($279.99; www.usa.canon.com) has image stabilization and motion-detection technology to help prevent blurry photos.

How To Fix Common Problems With
Video-Editing Software

The democratization of video production is a wonderful thing. With a small investment in technical tools and training time, almost anyone can produce the kinds of home videos that used to require hired professionals. With the advent of YouTube (www.youtube.com) and other video-sharing Web sites, it's never been easier to share your masterpiece with friends and family or find a new audience for your work. But let's be honest—video editing is still not as simple as email or digital photography. As with any new and sufficiently complicated technology, you're bound to run into a few bumps. We'll identify some common problems with popular video-editing tools and help you get back on track.

Before we discuss detailed problems with video-editing suites, let's spend a few minutes talking about software troubleshooting in general. Many of the problems you'll face while editing and publishing digital video aren't unique to video-editing applications. Working through some basic troubleshooting before digging into product-specific help resources can save time and provide valuable information that will help even if you do have an issue specific to your software.

First, address application or system instability with a restart. Close the application and reopen it, followed by a system reboot if necessary. You'll be amazed at how many problems clear up on their own after a fresh start. Next, check for updates to impacted software and hardware. This means getting the latest patches and updates for your video-editing software in addition to keeping drivers and firmware up-to-date for your graphics adapter, sound card, and motherboard. After you've covered the system bases above, look through the users guide and other support resources provided by your vendor. Most manuals have troubleshooting sections that walk you through common issues, especially if you're having trouble installing or configuring new software. We'll focus mainly on problems that remain unsolved after taking the above steps first, assuming that you already tried them and were unsuccessful.

General Problems

Problem: I'm not getting any sound from my videos during editing or playback.

Solution: First, make sure audio is working for other applications—play some music and ensure that general Windows sound effects are working. Check your general machine-level sound settings and speaker volume. Review the detailed volume information for different sources and devices from the Volume Mixer (called Volume Control in Windows XP) utility.

Double-click the speaker icon in the System Tray in WinXP to bring up the mixer. In Vista, right-click the icon and choose Open Volume Mixer. Your video-editing software will also have volume controls, probably in several locations, for both playback and editing. Check the application's overall settings (details vary by application) and those of specific video clips in your timeline or storyboard. Don't forget to check for mute options that may have been selected by mistake. Finally, make sure that the audio connections from your source are correctly attached to the inputs of your sound card.

Problem: My video constantly stutters and skips during playback in the editing software.

Solution: If your machine has enough processing power, graphics muscle, and memory to run video-editing software, you should have more than sufficient resources to handle playback. Storage issues are the most common cause of stuttering playback. We're talking about your hard drive. It's either too small, too slow, or not set up properly. As drives fill up, they become slower. You should have a separate drive (or at least a separate partition) for your video files. This helps you control their capacity usage and separate the system's regular overhead demands from your playback needs. If you don't have a separate drive, or if your drive spins slower than 7,200rpm, consider getting a newer, faster SATA (Serial Advanced Technology Attachment) hard drive dedicated to video and editing.

Problem: Windows does not detect my IEEE 1394 (FireWire) camcorder.

Solution: First, make sure all the cables and your FireWire card (if a separate component) are firmly connected. Next, check to make sure your system's

hardware is correctly installed and configured. Right-click Computer (My Computer in WinXP), choose Manage, click Device Manager, and right-click the 1394 Connection entry. Make sure it is enabled. Finally, make sure your camcorder is operating in playback mode. Disconnect and reconnect the device—Windows may take a few moments to detect and engage the camcorder before it's available to your application.

Audio challenges are common in video-editing software. Make sure the volume and mixer settings are correctly set before you dig into deeper troubleshooting.

Pinnacle Studio

Problem: When publishing a video to YouTube, Pinnacle Studio displays an error: Failed to publish your project to the web.
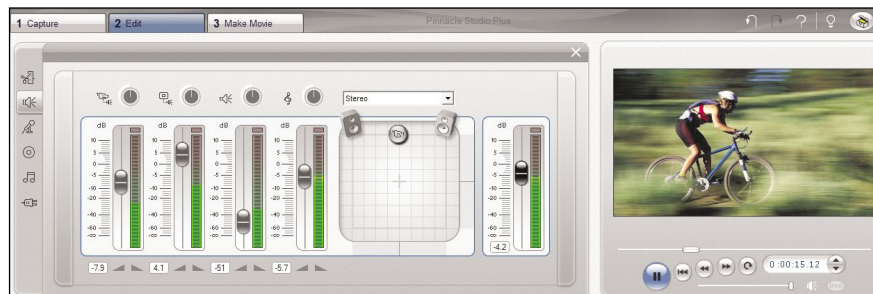
Solution: Pinnacle Studio allows your project name and file name to contain up to 255 characters. YouTube, on the other hand, only allows up to 60 characters for file names. This error occurs if you try uploading a project to YouTube with a longer file name. The solution is simple: Shorten the name of the project and the file to 60 characters or fewer.

Problem: Sometimes my Vista machine displays the message "The color scheme has been changed to Windows Vista Basic" when I run Pinnacle Studio.

Solution: Video-editing software is extremely resource-intensive. Your machine may be capable of supporting Vista's advanced graphical capabilities during light usage but unable to maintain that level of support when Pinnacle is running. It shouldn't make any difference to the Pinnacle software—Vista is simply scaling back Windows' graphical elements (Aero interface, animations, colors) in order to free up resources for Pinnacle. Alternatively, you can upgrade your system's hardware (especially the graphics adapter and memory) to a level where it can support both video editing and Vista's higher-level graphics.

Problem: I am trying to unlock bonus or downloadable content but receive the error message "Feature Not Found."

Solution: Pinnacle Studio is telling you that it can't find the additional content you're trying to unlock. It's not the "unlock" feature that's unavailable—it's the content itself. If you downloaded an add-on pack, make sure that you also installed the pack (instead of just letting it download without installing). For content purchased or installed in a previous version of Studio, you'll have to run the Content Transfer Wizard to make the material available in the latest version. If you're still unable to find the content, Pinnacle offers instructions for a patch utility, activation key regeneration, and a cache edit. Get detailed steps and links by searching for FAQ item 17064 in Pinnacle's Customer Help Solutions Database (pinnacle.custhelp.com).

Problem: During activation, I am getting the error "The unlock key is not valid."

Solution: This problem can occur when you're trying to open up special functionality in Pinnacle Studio but the application doesn't recognize the activation key. The first, most obvious, possibility is that you entered the code incorrectly. Double-check—you should have five blocks of five characters each. If the key is correct, you will have to regenerate the keys using your machine's Passport (a Pinnacle-created code based on your hardware profile and registration info) and Pinnacle's Unlock Site (tinyurl.com/ct6y2d). Again, details for using the Unlock Site and entering the newly generated keys are in Pinnacle's Solutions Database at FAQ item 11223.

Corel VideoStudio

Problem: I'm trying to burn a DVD, but I keep getting an Unspecified Error 5.0.0 message.

Solution: VideoStudio displays this error when one of the video, audio, or overlay files in your project is corrupted. First, save the project in MPEG (Moving Pictures Experts

Support Details

Company	Pinnacle Systems	Corel	Cyberlink
Product	Pinnacle Studio	VideoStudio	PowerDirector
URL	www.pinnaclesys.com	www.corel.com	www.cyberlink.com
Support Offerings			
Live Online Chat?	Y	Y	N
Knowledge Base?	Y	Y	Y
Discussion Forum?	Y	N	Y
Free Email Help?	Y	Y	Y
Telephone Support?	(650) 267-5196 Monday to Friday 9 a.m. to 10 p.m. EST	(877) 662-6735 Monday to Friday 9 a.m. to 7 p.m. EST $15 fee	Unpublished Monday to Friday 12 p.m. to 9 p.m. EST $29.95 (two month unlimited package)

Group) format and try again. If you're still having trouble, copy your project into a new working copy and start to remove files one by one. Try saving and burning after you remove each file, until you've identified the culprit. Remove that file from the original project and attempt to re-create or rerecord as necessary.
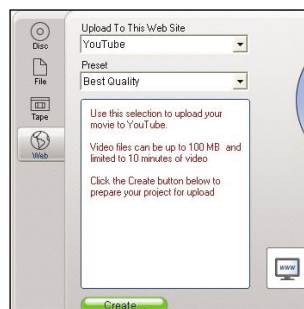
Problem: Every once in awhile, I get an error message that reads "MEMORY COULD NOT BE READ."

Solution: This error is Video-Studio's way of telling you that the application has too little virtual memory available. Do one (or both) of two things. First, shut down any other unnecessary applications or hardware consuming virtual memory: background applications, online services, and USB devices. Next, make sure your machine's virtual memory settings match Corel's recommendations. In Vista, open the System tool by

Video-editing software is a resource hog. Vista is smart enough to scale down its own graphical demands in order to support your application's needs.

typing **System** in the Start Search field and clicking System. Click the Advanced System Settings link and, under Performance on the Advanced tab, click Settings and then the Advanced tab. Select Change in the Virtual Memory section, deselect Automatically Manage Paging File Size For All Drives, and select an available hard drive (hopefully your video drive) with at least 5GB of free space. Click the Custom Size radio button and enter Initial Size and Maximum Size values as 1,024MB and 4,096MB, respectively. In WinXP, right-click My Computer, select Properties, choose the Advanced tab, and click the Settings tab in the Performance section. In the Performance Options dialog box, select the Advanced tab and click Change under Virtual Memory. Then ensure the correct drive is selected, click the Custom Size radio

button, and set the values as described previously.

Problem: I can't edit downloaded video files in VideoStudio.

Solution: Many commonly used video file formats (including WMV [Windows Media Video] and MPEG) record using a variety of codecs. A file may have a common format and run fine in your default video player but not be available for editing in VideoStudio. Check VideoStudio's list of supported codecs in your version's system requirements listed at www.corel.com and compare it to the codec used to record the file in question. In VideoStudio, check codecs by right-clicking a file in the Timeline and selecting Properties. If the file uses an unsupported codec, you will need to convert the file to an uncompressed AVI (Audio-Video Interleaved) file (a separate utility is needed to handle this task) and then import the resulting video.

Problem: I am trying to import from a DVD, but I can't because the Import button is disabled.

Solution: When you point VideoStudio to a disc or DVD directory, the software needs a few minutes to scan the material. After that, you'll need to select at least one chapter of the DVD to import (using the checkboxes at the top left) before the Import option will become available.

Problem: I can't capture video from my digital camcorder. The DV Capture button is disabled.

Solution: PowerDirector requires an IEEE 1394 connection to enable the DV Capture feature. If you're

Some problems, such as a mismatch between file name limitations in Pinnacle and YouTube, are easy to solve.

connecting via USB, you will not be able to use the feature with a DV camcorder.

Problem: My video has poor color and a lot of noise (digital artifacts). My audio's not so clear, either.

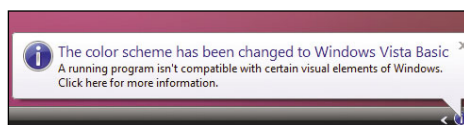Solution: PowerDirector's set of Magic Tools exist specifically to clean up problems like these. Magic Clean is the specific tool you're looking for. Simple sliders let you adjust color temperature, backlight levels, brightness, contrast, and more. You can also remove low- or high-frequency background noises. Click the Magic Clean button (an eraser icon) at the left of the timeline. Work between the various options under Clean Video and Clean Audio, navigating in your timeline and previewing the changes as needed until you hit the right balance of color, clarity, and background noise.

Problem: PowerDirector won't import my WMV files.

Solution: Not all WMV files are created equal. PowerDirector can only import WMV files capable of random access (rather than streaming). One easy way to tell the difference is to start playing the video and then move the playback slider to another part of the video. If the file doesn't pick up playback in the new location immediately, it won't work in PowerDirector.

Video-editing software has never been more accessible or easier to use. That doesn't mean we've been able to eliminate problems, of course, but the information and tools necessary to solve those problems are also easier to find. Whether your problem requires a simple reboot, a settings tweak, or in-depth one-on-one support, you'll be able to get back in the director's seat in no time. ∎

BY GREGORY ANDERSON

How To Install
Fans & Fan Controllers

Just as too much heat can cause harm to us, your computer needs air flowing through its case to keep its internal components from overheating. As we continue to pack more power into our computers, from heavy-duty processors to powerful hard drives, fans become an essential part of keeping a computer safe, healthy, and running well.

An overheated system can produce errors and cause hardware to fail. Usually an overheated system will simply reboot for what appears to be no apparent reason. If you've determined your computer has been overheating, or if you just want to increase the airflow or decrease the noise produced by your current case fan, look to this article for instructions for augmenting or replacing your case fan and installing a fan controller (which will help regulate fan speed and noise) to go with it.

Preinstallation Considerations

Before you run to the store for the biggest and best case fan and grab your tool belt, be sure your system can accomodate a new or extra fan. For instance, you will need an unused 3-pin header on your motherboard or an available 4-pin power connector from the power supply if you'd like to add a fan to your setup. Pay attention to the cabling to ensure any extra cords won't hinder any other components or obstruct airflow.

You will also need to figure out what kind of fan to purchase. You might be surprised by the number of options. Most fans are housed in a square casing, and the outer lengths of these cases typically measure 80mm, 92mm, or 120mm. To determine what size of fan your chassis can handle, first find out how large your current fan is and then see if there are pilot holes that allow you to place a bigger fan. If there are no pilot holes, but you'd like to install a larger size, you will need to drill the holes yourself.

As with other hardware components, case fans have a specifications list with a few key features you need to pay attention to. Airflow is measured in CFM (cubic feet per minute), and the higher this number is, the more powerful the fan. Speed, which is measured in rpm (revolutions per minute), and the airflow are directly related. Quicker fans can pump more air through the system; therefore, fans with a high rotational speed and CFM are more effective cooling devices.

You will also be able to choose between ball-bearing and sleeve-bearing fans. Ball-bearing fans have a longer life span and can tolerate greater amounts of heat for a longer period of time than sleeve-bearing case fans. Ball-bearing fans are quieter at high speeds than sleeve-bearing fans. You can also purchase double-ball-bearing fans for extended life span. Sleeve-bearing fans are less expensive,

however, and are sufficient for computers that handle light computing activities, such as browsing the Internet.

Fan manufacturers design some fans to be quieter than others. As you look at the specifications, pay attention to the noise level, measured in decibels. Compare and contrast fans that meet your size requirements to find a fan with the lowest decibel

Many computer cases have multiple predrilled holes to accommodate different fan sizes.

Some cases will have a panel that lets you clip your fan into place before you fasten the screws.
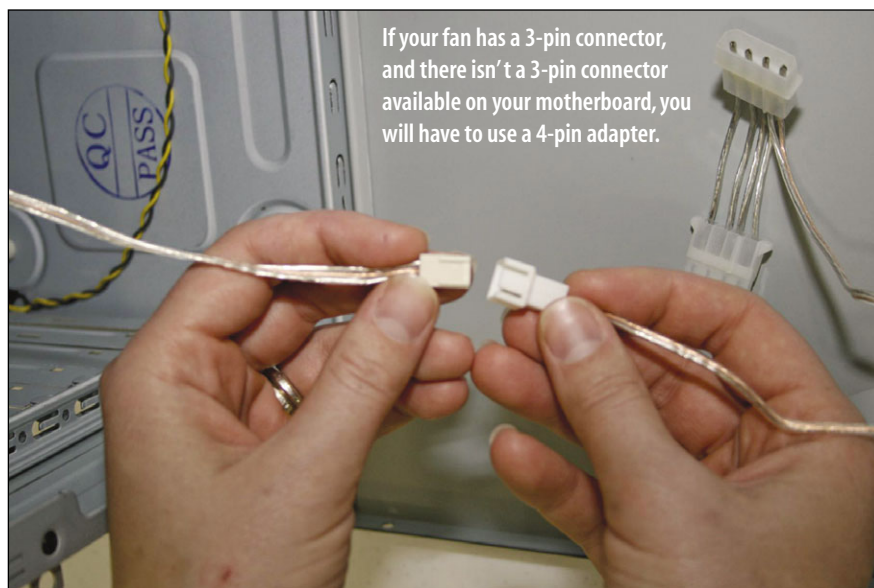
If your fan has a 3-pin connector, and there isn't a 3-pin connector available on your motherboard, you will have to use a 4-pin adapter.

number. A fan with a decibel level of 25 or less is nearly inaudible. As a general rule, the smaller your fan is, the louder it will be. Small fans have to push out the same amount of air as large fans do, but they have a smaller area to work with. The fan must spin faster to move the same amount of air, and this results in more noise.

If you're concerned about not knowing whether your fan is going to provide the optimal amount of cooling, look for a fan with built-in temperature sensors. These fans will adjust themselves to provide a sufficient amount of cooling to your computer. For instance, Antec (www.antec.com) offers a line of SmartCool case fans that come with built-in temperature sensors.

Finally, if you are looking to add aesthetic value to your computer, there are lots of fans that have LEDs (light-emitting diodes). You can choose from colors such as red, green, and blue that will illuminate the inside of your case as the fan is running.

A good rule of thumb is to purchase the largest fan that fits your chassis and will deliver the most effective cooling with the least amount of noise.

Install The Fan

As you're getting ready to install your case fan, remember an old high

school science lesson. Hot air rises because it is less dense than cold air, which means you'll want to position an intake fan (a fan that pulls air from the outside into the case) toward the bottom of your chassis. A good place to put such a fan is toward the bottom of the front panel of your case because there is usually a ventilation grill located there that allows the fan to suck the cool air from outside the case and blow it into the computer. A good place for an exhaust fan (a fan that pushes air out of the case) is the upper area of the case, such as under the power supply.

Before you begin the installation, shut down your computer and unplug the power cord. Then, remove the panels of your case. Each case is constructed differently, so some cases will require you to remove screws holding

Antec SmartCool fans speed up as your PC's temperature increases, thanks to their internal temperature sensors.

your case together, while others have configurations that allow you to remove your panels without unscrewing any screws.

If you already have a case fan and you are simply replacing your old one with a new one, this installation will be a cinch. All you need to do is unhook your current case fan's power connector, unfasten the screws, and then replace it with your new fan.

Some cases will let you click your fan into place before you fasten the screws, but this isn't always possible. When you attach the fan, check its side for an arrow that indicates the airflow direction and then position the fan according to the direction you want to push the air.

If your new fan is a different size or you are adding a fan to augment your current fan, things could get tricky. Look for the predrilled mounting holes we mentioned earlier that would allow you to easily fasten your new fan to the case. If there are no predrilled mounting holes, it's time to get out your drill and create them. To do this, measure everything out and mark the appropriate areas where the hole will need to be drilled. Plug the fan into a 3-pin header on your motherboard or use a 4-pin adapter cable to plug your fan into the power supply's 4-pin Molex connector. You might want to do some tidying up before you put your case back together. Try to make the cable routing as organized as possible in order to maximize airflow. Now you're ready to close up your computer, unless you are planning to also add a fan controller.

A Few Words About Fan Controllers

Once you've installed your fan, it might be helpful to include a fan controller to help you manage the speed and the noise of your fans. The fan controller you purchase will determine how many fans you can connect at once, and each fan controller will have different means of controlling the fan (such as knobs, buttons, or an LCD).

Be sure the fan is screwed in tight, so it doesn't fall and damage another component.

The fan controller fits into the drive bay under your optical drive.

With a fan controller, you can minimize the noise of your fan while you're checking your email by reducing the rpms of the fan and turn the rpms back up for computer-intensive tasks, such as gaming or working with some types of software.

You can purchase an inexpensive fan controller that just has a few knobs to adjust the rpms of your fan, but it might be more helpful to purchase something with a little more glitz. Some fan controllers will display information, such as the rpms of individual fans and the internal temperature of the computer.

Try to find a fan controller with temperature-monitoring capabilities. When your computer reaches a particular temperature internally, your fan controller will alert you with some type of alarm so you can adjust the fans accordingly. This will help ensure your computer is sufficiently cooled.

Install The Fan Controller

You will install your fan controller into an extra drive bay (where optical drives are usually located) on the front panel of your computer. Remove the front panel of your case and then slide the fan connector into the drive bay. Most fan controllers will have multiple predrilled mounting holes to accommodate 5.25-inch drive depths. Once

you have the fan controller in place, fasten the screws tightly.

Next, you will need to connect the fans to the fan controller. If you are using a fan controller, you will connect the fans to it in lieu of connecting the fans to the motherboard or power supply. Most fan controllers will let you connect four different
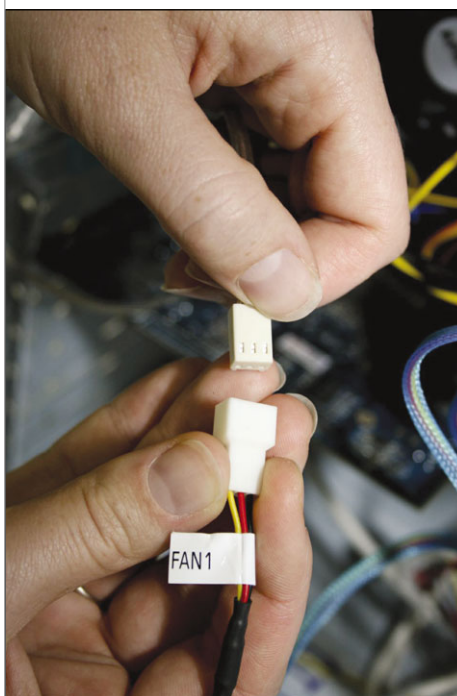
Generally, each fan connector on your fan controller will be labeled, so all you have to do is plug in the appropriate fan.

types of fans: the CPU fan, the VGA fan, and two case fans. Connecting these fans is as simple as plugging in the 3-pin connectors to each other. If your fan or your fan controller calls for a 4-pin connector, you will need an adapter cable.

Finally, your fan controller will come with a 4-pin connector cable so you can plug your fan controller into your computer's power supply. Once you've got everything connected, be sure to tidy up the wiring before putting your case back together.

Keep It Clean

It's very important to keep your fans clean because you don't want to blow dust and dirt in and out of your computer. Every few months, blow compressed air onto your fan. You can also use a cotton swab to wipe down the fan blades and vents to ensure dirt isn't clogging the vents and preventing air from flowing in and out.

Cooling is an important aspect of computing, so be sure your final configuration will bring sufficient cooling to your system. The difference in price between a low-quality fan and a high-quality fan isn't much, so if you can, purchase a high-quality, quiet, efficient, ball bearing fan. ▐▌

BY TESSA WARNER BRENEMAN

EXAMINING ERRORS

COMPILED BY THE *SMART COMPUTING* STAFF

Error messages rarely provide clear explanations of the problems they represent. Some are riddled with technical jargon. Others have seemingly indecipherable codes. And some tell you exactly what the problem is but don't tell you how to solve it.

Each month, we take the mystery out of error messages that flummox our readers. Every solution includes the message in its original form, a plain-English translation of that message, and step-by-step instructions for solving the problem.

If you have questions about an error message, email us (errormessages@smartcomputing.com), and we'll try to decipher it. Tell us what version of Windows you are using, give the full text of the error message, and provide as many details in your email as possible. Volume prohibits individual replies.

WINDOWS XP

Error

Setup cannot continue because one or more prerequisites required to install Service Pack 3 failed. For more details check the log file C:\windows\svcpack.log.

Translation: This error may appear when you try to install Windows XP SP3 (Service Pack 3) on a computer that already has Windows XP Media Center Edition 2003 or an older version of WinXP MCE. (You shouldn't run into this error message if the PC runs WinXP MCE 2004 or newer versions.) If you check the log file mentioned in the error message, you'll discover this entry: 8007F0F4 – STATUS PREREQUISITE FAILED.

The error message means that your PC's operating system doesn't have the right component to accommodate an installation of WinXP SP3. The missing component is WinXP SP2.

Solution: According to Microsoft, WinXP MCE will support the WinXP SP3 installation once you update WinXP MCE to WinXP SP2. Updating is a snap. Click the Start button and then click All Programs. Next, click Windows Update, which appears at the top of the All Programs list (even if the list is sorted alphabetically).

When your browser opens and displays the Windows Update page, click the Custom button. At this point, you can select the SP2 update. In fact, Windows Update may offer SP2 as your only update, whether you click the Express or Custom button.

Once the update completes, restart your WinXP SP3 installation. Check Windows Update after the WinXP SP3 installation completes, as new security updates may be available. Read KB949388 at support.microsoft.com for more information. ▌
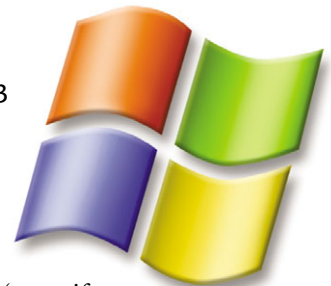
APPLE iPOD

Error

An unknown error has occurred 1413.

Translation: You may encounter this error message if you attempt an iPod **restore** (a process that removes your content and reinstalls the iPod Software) via iTunes. According to Apple, the message may mean that a third-party program is conflicting with iTunes.

Solution: Start by closing third-party programs (particularly security programs) that are running. Once you've found the program that is causing the problem, enable the other programs. Finish the iPod restore and then re-enable the offending program.

If you aren't able to remove the error message by closing programs, update iTunes to the latest version. To do this, open iTunes and then click Help and Check For Updates. If you have the latest update, iTunes displays a message that indicates this and provides your version number. Otherwise, iTunes lets you know that you don't have the latest version and lets you download the new version.

Once you've installed the new version of iTunes, attempt the restore again. The restore should complete without incident. For more troubleshooting tips related to this error message, visit support.apple.com and read article TS1927. ▌

Image courtesy of Apple

WINDOWS VISTA

Error

The backup did not complete successfully. A shadow copy could not be created for the following reason: Catastrophic failure (0x8000FFFF).

Translation: This error message may appear when Windows Vista's Automatic File Backup utility attempts to back up your computer's files to a CD or a networked hard drive. The message means that Windows Vista's Volume Shadow Copy service (which creates the file copies that are used for the backup) is disabled.

When this error occurs, the Backup Status And Configuration window displays an X icon and includes a The Last File Backup Did Not Complete Successfully message. The full error message appears when you click the nearby Details link.

Solution: To solve this problem, enable the Volume Shadow Copy service. Click the Start button and then right-click Computer. Select Manage. If the UAC (User Account Control) warning appears, click Continue.

When the Computer Management window opens, click the arrow next to Services And Applications in the left-hand column and then select Services. Move to the middle column and select Volume Shadow Copy. (You will need to scroll down to find this entry.)

If the Volume Shadow Copy field is not set to Automatic, click the nearby Start link to enable the service. If it is set to Disabled, right-click Volume Shadow Copy and then click Properties. Click the drop-down menu next to Startup Type and select Automatic. Next, select the nearby Start link.

At this point, you can restart your backup without encountering the error message. ❚

LAVASOFT AD-AWARE

Error

System error: 1814 has occurred. Description: Could not log in to service.
Are you running this application as another user?

Translation: If you use Lavasoft Ad-Aware 2008 (www.lavasoft.com), this error message may appear. It means that the program's definition file (the list it uses to identify adware on your computer) is corrupt.

Solution: Solve this error by deleting the corrupt file from your PC. In Windows XP, click the Start button and then click My Computer. Open the C: drive, Documents And Settings, and All Users. Next, open Application Data, which may be hidden. If the Application Data folder doesn't appear, click Tools and Folder Options. When the Folder Options window appears, click the View tab and then scroll to Hidden Files And Folders. Click the Show Hidden Files And Folders radio button and then click OK. Open the Application Data folder. Next, open Lavasoft and Ad-Aware.

In Vista, click the Start button and then click Computer. Open the C: drive and then click the Organize button. Click Folder And Search options. Click the View tab and then scroll to Hidden Files And Folders. Click the Show Hidden Files And Folders radio button and then click OK. Open ProgramData, Lavasoft Ad-Aware, and Defs.

Once you open the Ad-Aware or Defs folder in WinXP or Vista, you'll see core.aawdef, which is the file you want to delete. Delete core.aawdef. Start Ad-Aware. When the program starts, it will generate a new core.aawdef file. The error message should not appear. Visit lavasoft.com for more information about this error. ❚

Error Messages Online

Error Messages

If you're getting a specific error message, this is the place to start.

Browse Error Messages Alphabetically (Try this first.)
Search By Error Message Text

Don't see your error message here? Visit the *Smart Computing* Tech Support Center (www.smartcomputing.com/techsupport) to search our database of common error messages and PC problems.

FAST FIXES

COMPILED BY TESSA WARNER BRENEMAN

Microsoft Office Compatibility Pack Service Pack 2

Update: This update for the Microsoft Office 2007 Compatibility Pack provides fixes for Word, Excel, and Power-Point 2007 file formats. It includes general product fixes and improves stability, functionality, and security. **Installation:** You can perform this update automatically by going to Microsoft Update (www.update .microsoft.com), or you can go to www.microsoft.com/downloads, search for the Microsoft Office 2007 Compatibility Pack SP2, click the corresponding link, and then click Download. Then follow the on-screen prompts to complete the download.

www.microsoft.com

Adobe Fireworks CS4 10.0.3

Update: This update for Adobe Fireworks CS4, which is available for both Mac and Windows operating systems, is designed to provide the program with greater stability. Notable problems fixed include an issue that caused the text to shift and bugs that occurred when copying and pasting text from Microsoft Office 2007 (Windows) and Microsoft Office 2008 (Mac) to your Fireworks project. For example, the update fixes an issue that causes text within a text box to be moved outside of the box after you select or deselect the text box more than once while using arrow keys to move it. **Installation:** Open Fireworks CS4 and then click the Help menu. Next, click Updates and then click the Download And Install Updates button. The update will then install itself.

www.adobe.com

Intuit QuickBooks Pro, Premier & Simple Start 2009 & Enterprise 9.0 R7

Update: Intuit has improved Quick-Books Pro, Premier, and Simple Start 2009 and Enterprise 9.0 with R7 (Release 7). This update affects many aspects of the Accountant's Copy feature, including fixing bugs that caused QuickBooks to crash while using exchange rates and improving the overall usability. Many of the elements of this update also affect Intuit Statement Writer. For example, it allows Intuit Statement Writer to eradicate invalid characters found in the company name when making new files to prevent errors from being generated. Additionally, the Tax Form 990 (Exempt Organization Non-Profit) has been updated, the Credit Card Processing Kit and the Invoice Manager toolbars have been added once again, and in regard to reports, the values are now correctly displayed in the company snapshot of the Income Expense Graph Balance. According to Intuit, other aspects of these programs affected include accounts payable, application integration, file operations, installation, lists, operations involving multiple currencies, payroll, and online banking. **Installation:** Open QuickBooks and then select the Help menu. Click Update QuickBooks. Select the Overview tab and choose Update Now. Choose the updates you want to download, which are found in the Update Now window. Select Get Updates and then click Close when prompted to do so. Exit QuickBooks from the File menu and then reopen it. Click Yes when you are prompted to install the updates.

www.intuit.com

Internet Explorer 8 Compatibility View List

Update: Microsoft released an update for IE8 for both Windows Vista and Window XP that will enhance sites that were designed to work with browsers older than IE8. IE8 is engineered to improve the interoperability between browsers and Web sites, but IE8 users might experience issues stemming from sites that still depend on aspects of earlier versions of Internet Explorer. Compatibility View List was created to help close the gap between the technologies of IE8 and earlier versions. **Installation:** Go to www.microsoft .com/downloads and type **Update for Internet Explorer 8 Compatibility View List** in the search field. Find the most recent update for the Internet Explorer 8 Compatibility View List for your operating system and click it. On the resulting page, click the Download button and then follow the prompts.

www.microsoft.com

FIX OF THE MONTH

Microsoft Windows Malicious Software Removal Tool

Update: This update to Windows 2000/Server 2003/XP/Vista installs the Windows Malicious Software Removal Tool, which scans computers and helps users remove malicious software by certain widespread programs. Once the removal process is finished, you will receive a report that includes a description of the outcome and whether or not malware was found and eradicated. **Installation:** You can get the most recent version of the Malicious Software Removal Tool through Automatic Updates, or you can get it at Microsoft Updates (www .update.microsoft.com). You can also go to www.microsoft.com/ downloads, search for Malicious Software Remover Tool, click on the corresponding link, and then select Download. According to Microsoft, a new version of the Malicious Software Removal Tool will be available on the second Tuesday of each month, so if you don't have your updates set to automatic, be sure to check back for updates each month.

www.microsoft.com

ACTION EDITOR

Are you having trouble finding a product or getting adequate service from a manufacturer? If so, we want to help solve your problem. Send us a description of the product you're seeking or the problem you're having with customer service. In billing disputes, include relevant information (such as account numbers or screen names for online services) and photocopies of checks. Include your phone number in case we need to contact you.

Letters may be edited for length and clarity; volume prohibits individual replies.

PC Tools & ScanCafe Come Through

I hope I can get someone to speak up for me. I am trying to get in touch with PC Tools to have my renewal fee amount returned. I do not have their product installed on my PC. I purchased the original Desktop Maestro program from PC Tools while on a different PC and decided it was not what I wanted. When I copied files and upgraded from WinXP to Vista on a new PC, this product was left behind.

I signed in to an account with PC Tools in order to make contact with them. I sent a message to PC Tools on Feb. 21. As of Feb. 24, the message has not been replied to or acknowledged. Can you help me recover my costs on this renewal and get me off their renewal system entirely?

Any help will be appreciated!

John B. Moss
Moyie Springs, Idaho

After leaving a message with PC Tools tech support on March 27, which got no response, we sent an email to a representative at PC Tools on March 30 that detailed John's problem. Within a few hours of sending the email, PC Tools sent us a reply email indicating that the problem would be taken care of. When we checked back with John a few days later, he had received a letter that indicated PC Tools had issued the credit he wanted.

I shipped about 1,000 slides to ScanCafe (www.scan cafe.com) on Feb. 9. This order was received on Feb. 13 and has been in the queue for quite a long time. I am becoming concerned that something serious has

happened to my slides. Could you please help expedite this order and figure out the status of my slides? I have checked the status of my order on the ScanCafe Web site daily and see that the estimated date of scanning is March 14. Today is March 20, and I remain fixed in the queue.

Gary E. Marti
Location withheld.

We sent an email to ScanCafe's support staff, who contacted Gary and indicated that they have been backlogged because of a large number of orders. After checking into the matter further, ScanCafe found the scans had not yet been uploaded for review. Then, ScanCafe contacted its processing center and asked for an update for when Gary's scans would be available online. ScanCafe indicated that it would have to bump back Gary's order from the online date of March 14 to March 28.

The representative told Gary that he'd inform Gary as soon as the images were uploaded online. Gary reported that he got his images by the March 28 deadline. ∎
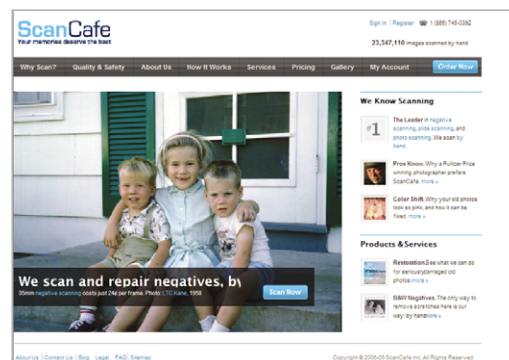
Sweating The Small (Sticky) Stuff

This month I want to talk about labels. Never mind the figurative—we'll leave sociology theories and lectures about namecalling for another day. I'm talking about labels in the most literal sense: descriptive markers identifying a particular item. What, you might be asking, does this have to do with tech support? In response, let me ask you a few questions. Have you had to free up a USB port by disconnecting a peripheral recently? For that matter, have you looked behind your computer lately? What does the back of your entertainment center look like? Most people, myself included, have a lot of expensive and intricate electronic equipment all jumbled together without a clear or easy way to tell which cord connects to what box. This situation is just *begging* for technical trouble. If you're anything like me, you're probably only one curious cat or a clumsy moment away from bringing the whole thing crashing down. Even if you avert disaster, you're creating lots of extra potential for mistakes and wasted time when you have to work on your system.

We set up a new system in the nook off the kitchen not too long ago. After years of halfheartedly trying to keep up with cable creep on my office system and entertainment center, I finally took my own advice about labeling right from the beginning. Admittedly, a fresh start makes it easy to look diligent. But I'll take my pride where I can find it. Next time you're rearranging everything for spring cleaning, setting up a new system, or just in the mood for a project, label all your cables. I got started with a roll of masking tape and a Sharpie. You can get fancy and buy specialty products (Kableflags [www.kableflags.com] or a label maker), or you can buy some of those little page markers lawyers and accountants like to use when telling us to "sign here." I prefer the homemade approach, though, mostly because I'm cheap. In my defense, I'm also unlikely to run out of tape and ink, no matter how many times I switch up my system.

Whatever your tool of choice, wrap a label around every power cord at the outlet end, with about an inch or two of overlap. Write a short (but obvious) abbreviation at each end recording where the other end of that cord connects. It may seem stupid to label the business end of a power cord (its purpose is obvious, even to me), but you'll be glad to know which outlet's powering your PC and which is powering your shredder the next time you have an urgent need for an outlet. Any devices that also have a power supply converter (the "brick" connecting a cord in two parts) should get an extra label right on the brick. If those things get disconnected, guessing at which belongs where can be a dangerous game leading to all kinds of tricky-to-diagnose (and possibly dire) situations.

Next, label your other connector cables at each end. On the PC side, your monitor (HDMI [High-Definition Multimedia Interface], DVI [Digital Visual Interface], or VGA [Video Graphics Array]) cable may be too obvious for words, but most cables will benefit from the treatment. You don't have to accumulate very many USB devices before the wad of cables makes it impossible to figure out where each belongs. On the other end, it might sound silly to mark printer, scanner, and external HDD cables right where they link in to their devices, but if you have to disconnect several components at once (for rearranging or troubleshooting), you'll be glad to know which one used to go where.

If you have USB hubs, an Ethernet (wired) network router, or other peripherals where multiple cables converge, give them each the same treatment. Trying to figure out exactly which cable on the hub connects and charges your iPod isn't a problem you want to solve when you're running late for the airport. If you're feeling aggressive, move on to the entertainment center. Taming the rat's nest behind most televisions and AV receivers is a project in itself, but the same principles (and reasons for going through the exercise), apply. Just remember one simple rule: A little adhesive can go a long way. ▐▌

BY GREGORY ANDERSON

Gregory Anderson *is a regular contributor to* Smart Computing *and several other technology publications. He keeps a sharp eye (with the help of thick glasses) on computing trends and enjoys working with geeks of all stripes—most of the time. Reach Greg with your own labeling stories (nerds and jocks both welcome) at* **gregory-anderson@smartcomputing.com.**

OVATION

Woodees

$59.99 | Southern Audio Services | www.bazooka.com

The maker of the sound-isolating Woodees holds the philosophy that the "finest musical instruments have always been made from wood," so why not earbuds? Crafted from natural wood, the Woodees IESW101B earbuds house 10mm drivers, sport a gold USB connector, and aim to produce deeper bass and richer overall sound, which was certainly the case in my usage, as audio resonated deep and crisp with fully textured tones. A 3.2-foot resin cord, meanwhile, is touted to not develop a "memory coil or kinks" or produce static noise when brushing against clothes. A Woodees version for the iPhone and 2G/3G smartphones ($69.99; IESW100B) is also available with a built-in microphone for switching between call and music tasks. The Woodees package includes four pairs of silicon earbuds and a cloth pouch.

by Blaine Flamig

External Slim eSAU208 8X

$89.99 | Philips & Lite-On Digital Solutions
www.liteonit.com

This DVD burner, just 0.8 inches thick and weighing only 0.8 pounds, will look pretty smart next to your laptop or on your desk. It's an 8X DVD reader and DVD±R writer, as well as a 24X CD reader/burner. It comes with Nero 7 Essentials and LightScribe support.

Also included is a special three-plug USB 2.0 cable. This allows the drive to run on power from two USB ports instead of its AC adapter. There's also a weighted, slip-resistant base, which complements the eSAU208's white- or burgundy-on-black design.

by Marty Sems

Radeon HD 4650

$69.99 | Gigabyte | www.gigabyte.us

A discrete graphics card isn't for everybody. But if you play 3D games on your PC or watch high-definition video, even occasionally, then you probably know how limiting integrated graphics can be. For just a little cash, you can install Gigabyte's Radeon HD 4650 GV-R465OC-1GI and do all the above without crippling your CPU or bogging down your memory. This graphics card features 1GB of onboard memory and a built-in HDMI (High-Definition Multimedia Interface) port for using your HDTV (High-Definition TV) as a monitor. Of course, DVI (Digital Video Interactive) and VGA (Video Graphics Array) ports are also available to accommodate any monitor type.

by Andrew Leibman

Silver Seal Antimicrobial & Washable Keyboard

$49.99 | Seal Shield | www.sealshield.com

Keyboards are dirty creatures, especially when shared among family members or a community of users. To that end, Seal Shield's 107-key Silver Seal Antimicrobial & Washable Keyboard SSKSV107 is "completely submersible, waterproof, washable, and completely dishwasher safe," meaning that a periodic washing in soapy water or a dishwasher (in the top rack and with no-heat drying) is not only possible, it's encouraged. Seal Shield's Silver Seal antimicrobial feature, meanwhile, embeds pure silver ions in the board's frame to "create a safe, effective, inorganic, antimicrobial solution." A QuickConnect cord makes disconnecting the keyboard from a PC a snap, while laser-etched keys prevent letters/numbers/symbols from fading upon repeated washing.

by Blaine Flamig

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